

MANUFACTURERS' RECORD

A Weekly

Southern Industrial and Hardware

Paper.

VOL. 8. No. 22.
WEEKLY.

BALTIMORE, JANUARY 9, 1886.

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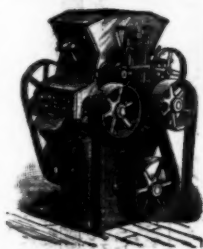
—DEALERS IN—

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COTTON and WOOLEN MACHINERY.

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Of Every Description.



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MORSE, WILLIAMS & CO. Successors to
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ROCK DRILLS, AIR COMPRESSORS,

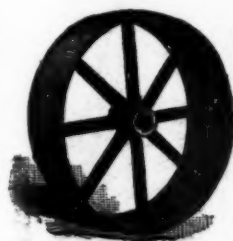
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THE MEDART PATENT WROUGHT RIM PULLEY.

OVER 300,000 NOW IN USE. THE LIGHTEST, STRONGEST, BEST BALANCED and CHEAPEST in the WORLD.

Whole Pulleys from 9 inches to 120 inches diameter. Split Pulleys from 12 inches to 120 inches diameter. All widths of face up to 36 inches, crowning or straight, with single, double or triple sets of arms. Also Tight and Loose Pulleys. Absolute satisfaction guaranteed.

SHAFTING, HANGERS, COUPLINGS, &c.

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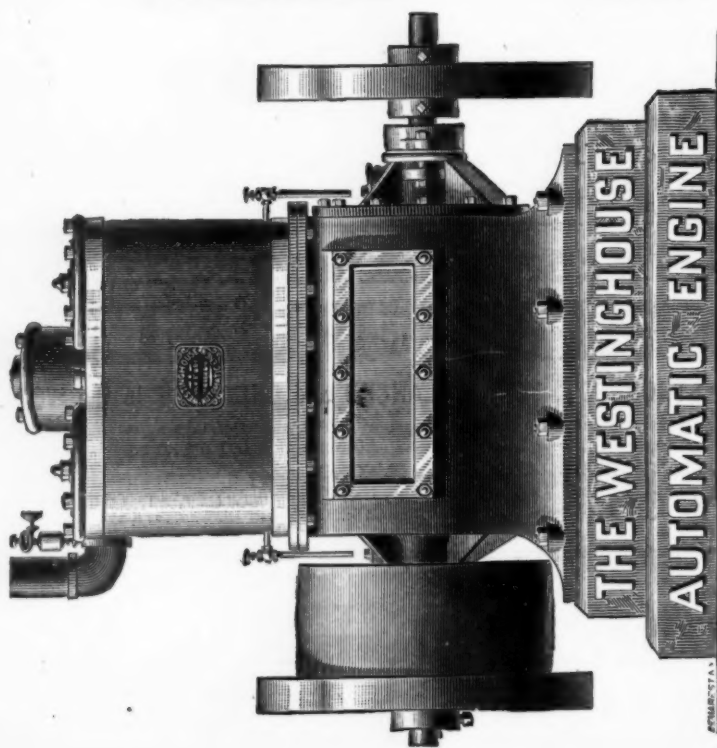
Manufacturers of Shultz Patent Fulled Leather Belting, Lace and Picker Leather.

OUR BELTING is made of Leather, tanned on the surfaces only; the interior (which is the fibre and strength of the hide) is not tanned, but Rawhide fulled and softened by our patent process. Our belting is more pliable, and hugs the pulley better and transmits more power than any other Belt. It does not pull out at the laceholes or rivets. It stretches less than any other Belt. It works equally well for the largest Driving Belts or for the fastest running machinery and smallest pulleys. OUR LACE LEATHER is made of Rawhide, by our patent process, without any tanning and is stronger and will wear better than any other. WE ALSO MAKE THE BEST PICKER LEATHER AND BELT GREASE IN THE COUNTRY. Satisfaction guaranteed.

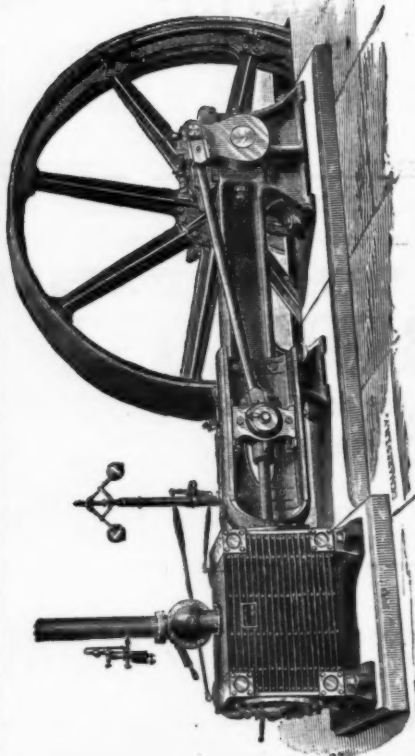
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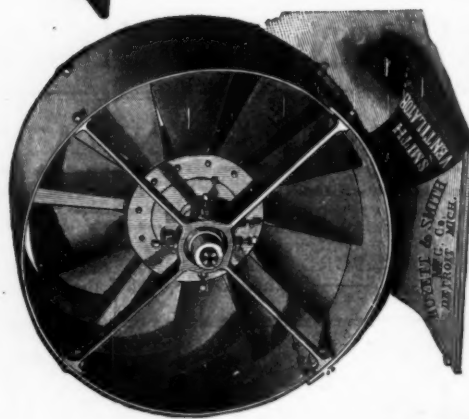
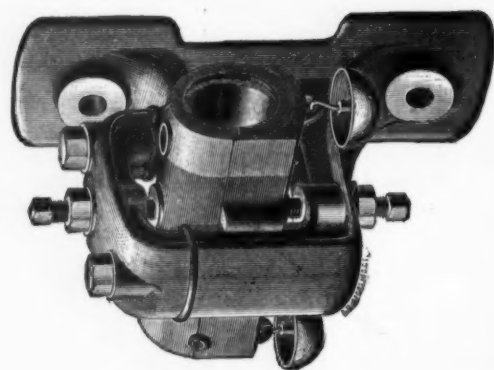
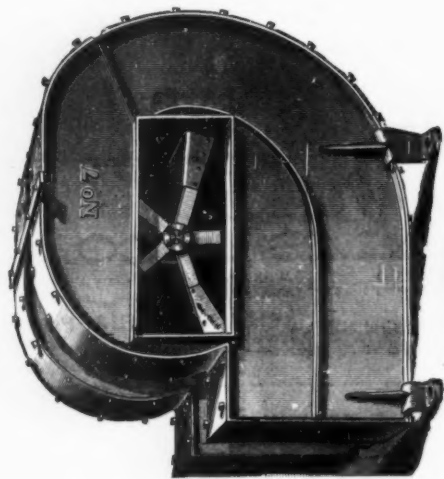
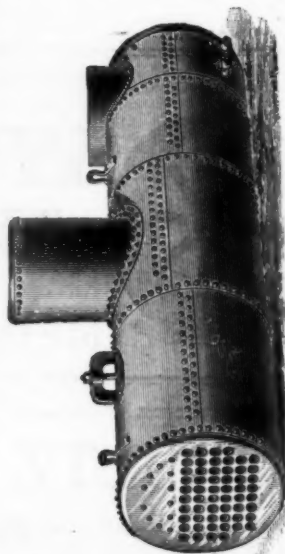
J. L. LINDSAY, Richmond, Va.



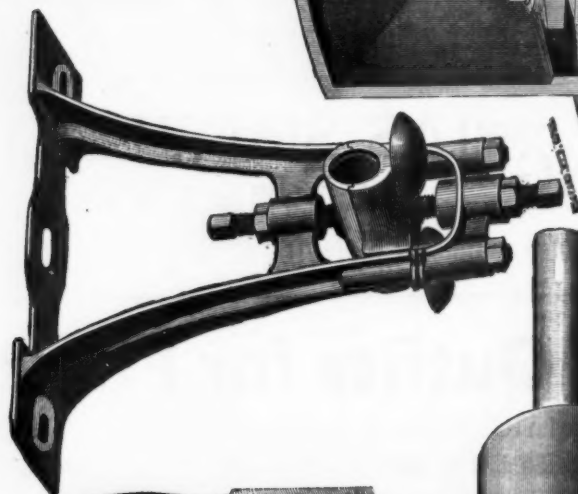
THE WESTINGHOUSE
AUTOMATIC ENGINE



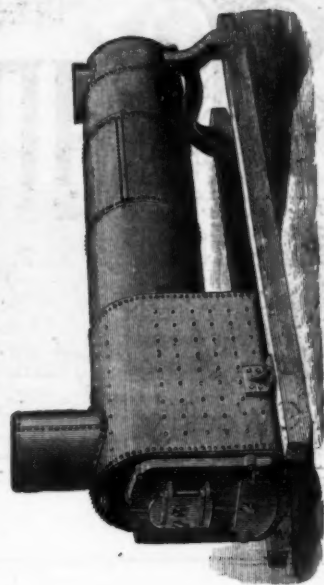
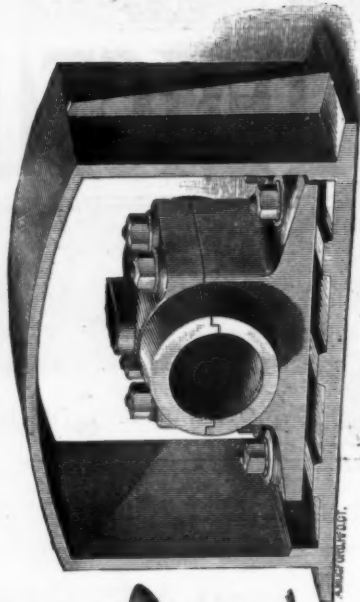
THE REYNOLDS-CORLISS ENGINE.



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WE WILL PLAN AND CONTRACT FOR YOUR ENTIRE PLANT
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PULLEYS, FANS, EXHAUSTERS, VENTILATING WHEELS, &c.
ALSO, COMPLETE ELECTRIC LIGHT INSTALLATIONS,
And will deliver the whole in Running Order for
ONE FIGURE AND ONE PROFIT!

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Contracting and Consulting Engineers,
17 CORTLANDT STREET, NEW YORK.

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COTTON MACHINERY

→ **Openers, * Lappers, * Cards,** ←

Railway Heads, Drawing,

RING SPINNING, SPOOLERS, WET and DRY TWISTERS,

REELS,

→ **WARPERS, * DRESSERS, * LOOMS, * &C.** ←

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OF THE MOST IMPROVED PATTERNS.

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Cylinders, 36x36 and 36x30, with 20 tops and Self-Strippers and Railway Troughs. Union Cards, with workers, strippers and tops.

FINISHER RAILWAY HEADS.

DRAWING FRAMES, ANY LENGTH, WITH 3, 4 AND 5 LINES OF STEEL ROLLERS.

English Slubbers and Fly Frames, With Long or Short Bolsters.

— **BOBBINS** — 12x6, 11x5½, 10x5, 9x4½, 8x4, 7x3½, 6x3, and 5x2½.

RING SPINNING FRAMES, 2, 1½, 1¼ AND 1½ INCH RINGS.

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SELF-ACTING MULES, Parr, Sharp and Roberts' and Higgins' Pattern,

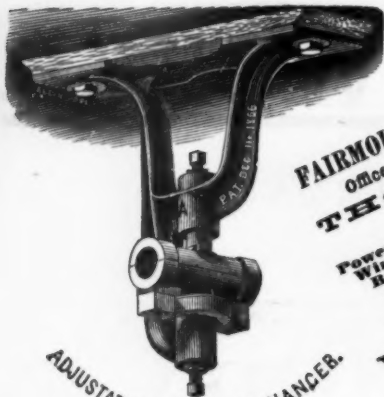
1½, 1 5-16, and 1¼-inch Gauge.

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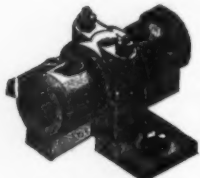
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ADJUSTABLE SELF-OILING HANGER.

Ball and Socket
Self-Oiling Pillow Block.DOUBLE-BRACED ADJUSTABLE
SELF OILING HANGER.Adjustable Self-Oiling
Post Hanger.
6 inches from post to
center of shaft.

FAIRMOUNT MACHINE WORKS.
Office, 2106 Wood St., Philadelphia.
THOMAS WOOD,
Manufacture as Specialties
Power Looms, Patent Robbins or Quill
Winding Machines, Plain and Presser
Beaming Machines, Pines, Reeling,
or Spooling Machines, Dyeing, Sizing,
Warp Spinning, Fulling and Cal-
endering Machines.

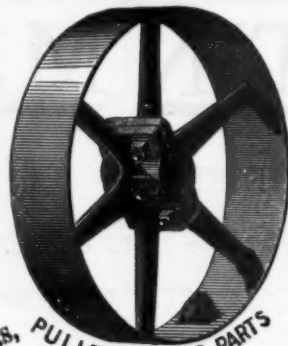
WARPING MILLS,
16, 18 and 20 yards Circumference,
WITH IMPROVED HECKS.
SHAFTING,
With Patent
ADJUSTABLE SELF-OILING HANGERS,
8, 10, 12, 15, 18, 20, 24 and 30 in. drop.

Also WALL, POST AND GIRDER HANGERS.
Pulleys, from 4 inches to 10 feet in diameter.
PATENT FRICTION PULLEY.
Pulleys in two parts, any size required.
PATENT HOISTING MACHINES.
Oil Presses for Lard, Fish and Paraffine.

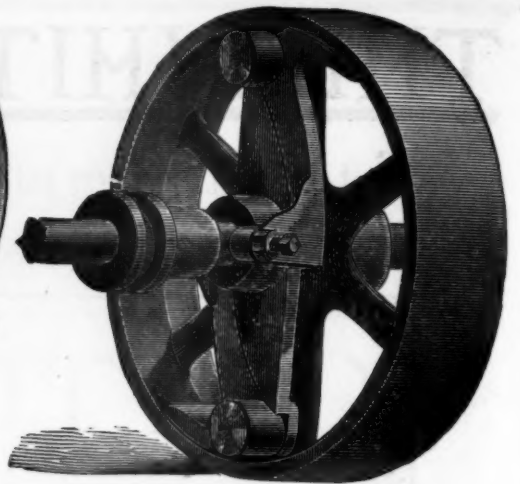
Special Driving,
such as Angular, Muley, and Gallows Driving,
furnished for any position
where possible to transmit power by belts.
PULLEYS from 4 inches to 10 feet in diameter.

Why use old style Bearings, that require oiling
every day, when you can get Bearings at less cost
that only require oiling once in Six Months, and
thus save oil and labor enough to pay for the bear-
ings in use. Test the matter for yourselves; a
trial always secures the trade.

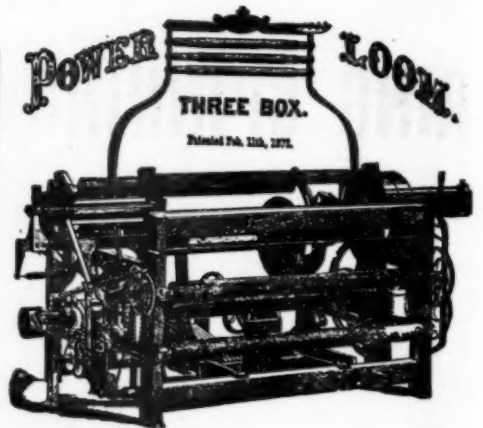
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THOS. WOOD,
Office, 2106 Wood St.
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PULLEY IN TWO PARTS

**PATENT FRICTION PULLEY.**

Simple, reliable and very durable.
Suitable for any kind of driving, they
serve equally well as driver or driven.

**POWER LOOM.**
THREE BOX.
Patented Feb. 12th, 1877.

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THE LAMB KNITTING MACHINES, TUTTLE KNITTING MACHINE,

—AND—

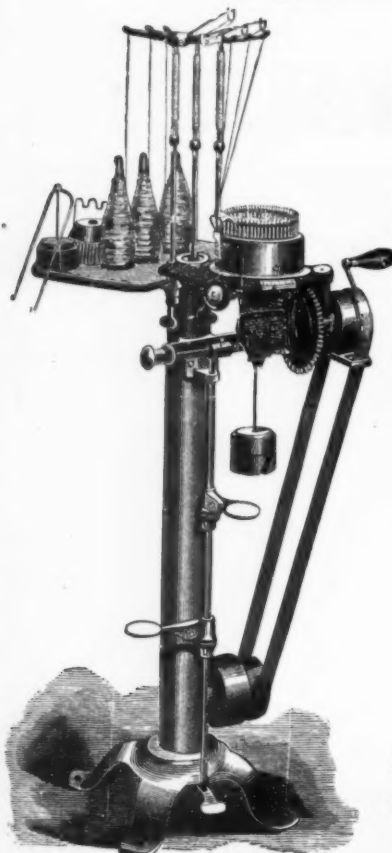
New AUTOMATIC CIRCULAR RIB KNITTING MACHINE

New Automatic Circular Rib Knitting Machine

For Knitting Ribbed Tops for Socks, Shirt Cuffs,
and Drawer Bottoms.

This machine will produce from twenty-five to thirty dozen pairs of Cuffs in ten hours, making the WELT and LOOSE COURSE AUTOMATICALLY. The Needle Cylinder and Dial are made of FORGED CAST STEEL, and everything about the machine is built in the most THOROUGH and WORKMANLIKE manner, with the view of having them run the longest possible time without repairs. They are complete within themselves. We make them any number of ribs desired.

**THE LAMB MACHINE
IS THE ONLY
MACHINE**



THE LAMB MACHINE.

Send for Full Particulars of
the Above Machines to



That knits hosiery or tubular work of all sizes.
That narrows and widens on hosiery or tubular work.
That knits a regular, right-angle heel, such as is knit by hand.
That narrows off the toe.
That knits a sock or stocking complete.
That knits mittens and gloves of any size without a seam.
That forms genuine Ribbed or Seamed work.
That knits the Double, Flat, or Fancy Webs.
That knits an elastic seam-stitch Suspender with button holes.
That knits the Afghan stitch, Cardigan Jacket stitch, Fancy Ribbed stitch, the Raised Plaid stitch, the Nubia stitch, Shell stitch, Unique stitch, Tidy stitch, &c., &c.

It is now the Standard Machine for manufacturing all lengths of needle beds, from 8 inches by 60 inches, and cuts from four needles to the inch to ten to the inch. More of these machines have been made and sold than all others combined.



The Lamb Knitting Machine Mfg. Co's New
CIRCULAR RIB KNITTING MACHINE,
For Knitting Ribbed Tops, for Socks, Shirt Cuffs
and Drawer Bottoms.

THE LAMB KNITTING MACHINE MANUFACTURING CO., CHICOPEE FALLS, MASS.

IN CORRESPONDING, PLEASE MENTION "THE MANUFACTURERS' RECORD."

C. E. RILEY.

RILEY & GRAY,

WM. B. GRAY.

—SUCCESSORS TO—

HOWARD & BULLOUGH, & RILEY,

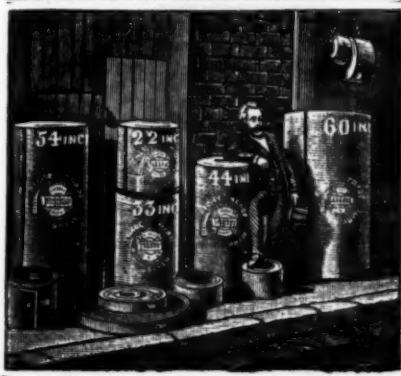
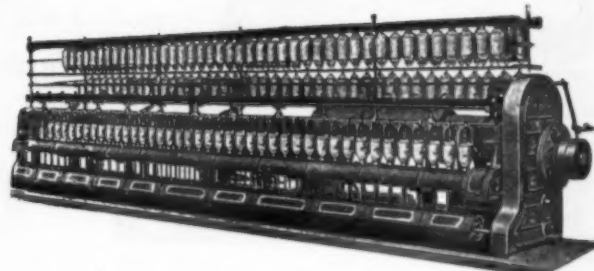
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**HOWARD AND BULLOUGH'S
Cotton Machinery.**

ALSO, IMPORTERS OF

Woolen and Worsted Machinery, Card Clothing, Etc.

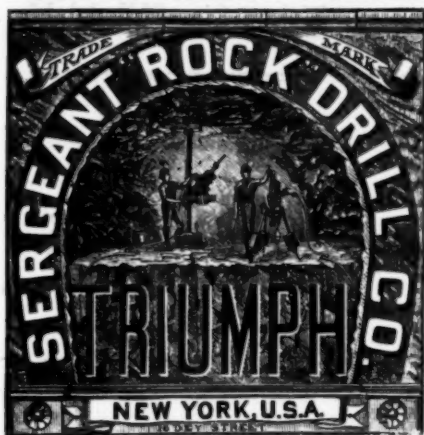
Correspondence Solicited.

19 PEARL ST., BOSTON, MASS.**GANDY'S PATENT MACHINE BELTING**

GOLD MEDAL AWARDED NEW ORLEANS, 1885, FOR BEST RUNNING BELTS.

*Made PERFECTLY Straight and any Length without Joints.**For Main Driving it is the Best. Much Cheaper Than Leather.*

MANUFACTURED BY

THE GANDY BELTING CO., BALTIMORE, MD.**THE "TRIUMPH" ROCK DRILL
and NORWALK AIR COMPRESSOR**

Are the Latest and Most Improved Machines that were ever designed for the work required of them. They are the Most Simple, Economical and Effective now known, and will satisfy all Purchasers.

Boilers, Steam Pumps, Hoisting Engines, Pipe and Fittings, Electric

Blasting Apparatus, Powder, Caps and Fuse, Steam and Air Hose, Wire Rope,

—And General Mining and Contractors' Supplies.—

Complete Specifications for Rock Drilling and Mining Plants Furnished on Application.

SERGEANT DRILL CO., 16 Dey Street, New York, U. S. A.**WHITINSVILLE SPINNING RING CO.**

WHITINSVILLE, MASS., U. S. A.

SUPERIOR WORKMANSHIP.

NOT EXCELLED IN DURABILITY.

EVERY RING WARRANTED.



The Simplest and Best Method of Adjusting Rings.



SEND FOR SAMPLE AND PRICE-LIST.

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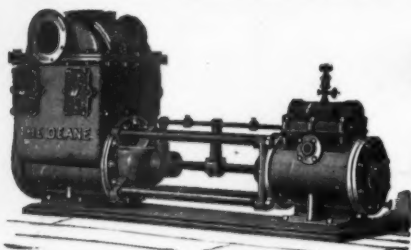
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Contractors and Builders of Gas and Water Works for small cities, Ice Factories and Cold Storage Houses, on the most approved systems now in use. Capital and machinery furnished for any satisfactory manufacturing business. Stock companies organized and their Bonds and Stock put on the market. This company will only invest in enterprises that meet the approval and investment of local capital. We invite correspondence with those who wish to establish Cotton Seed Oil Mills, Cotton Gins, Ice Factories, Brick Machinery on clay beds, Fertilizer Works, &c., &c. We also build houses on the Installment Plan, taking a mortgage on same for 80 per cent. of the purchase price. *No Patents Purchased.* Our business is to develop enterprises needing assistance and experience to meet the demands of trade. For particulars apply to

FRED. BALCOM, General Manager,**No. 234 BROADWAY, NEW YORK.**

THE DEANE STEAM PUMP CO., HOLYOKE, MASS.



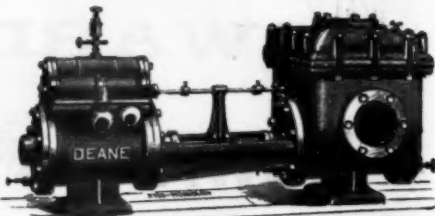
MANUFACTURE
Every variety of Pumping Machinery

VACUUM PUMPS FOR SUGAR WORK, ETC.

IRRIGATION PUMPS ARE SPECIALTIES.

Water Works Pumping Engines for Cities and Towns.

SEND FOR NEW ILLUSTRATED CATALOGUE No. 22.



HELL GATE

— BLOWN UP WITH —

240,000 Pounds of RACKAROCK.

Safer than any other High Explosive.

Stronger than No. 1 Dynamite, and Cheaper.

For Circulars address

RENDROCK POWDER CO., 23 Park Place, N. Y.

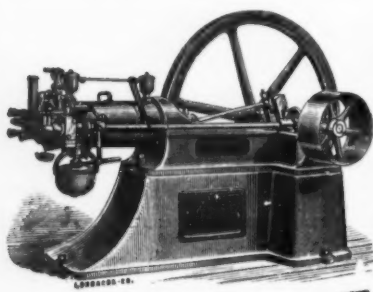
Rand Drills.

Every Hole for the great blast at FLOOD ROCK was drilled with the

RAND DRILLS.

RAND DRILL CO.

23 PARK PLACE, N. Y.



Over 14,000 in Use.

Otto Gas Engine

30 to 70 per cent. less Gas consumption than ANY other ENGINE.

Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies. UNPARALLELED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes: 1 to 25-horse power.

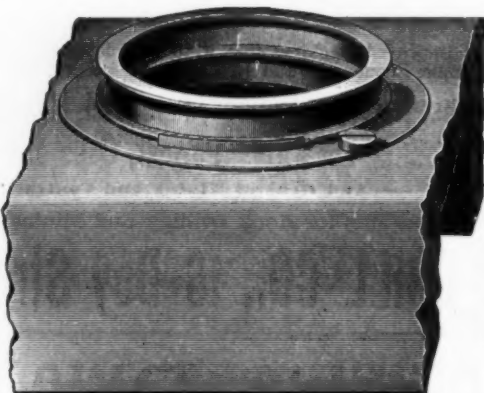
Branch Office, 214 Randolph St., Chicago.

SCHLEICHER, SCHUMM & CO., N. E. cor. 33d and Walnut Sts., Philadelphia.

DOUBLE ADJUSTABLE Spinning Rings.

GEORGE DRAPER & SONS,
HOPEDALE, MASS.

TELEGRAPH ADDRESS AND RAILROAD STATION,
MILFORD, MASS.



Number of Rings sold.	Number of Rings sold for repairs.
1869..... 6,025.....	
1870..... 20,258.....	
1871..... 38,648.....	
1872..... 94,264.....	12
1873..... 117,301.....	
1874..... 168,382.....	500
1875..... 223,924.....	953
1876..... 185,319.....	947
1877..... 270,811.....	946
1878..... 215,214.....	3,309
1879..... 336,918.....	8,007
1880..... 567,860.....	11,264
1881..... 659,730.....	8,974
1882..... 636,715.....	22,515
1883..... 416,500.....	21,689
1884..... 319,869.....	25,105
1885, 9 mos. 212,056.....	22,373
Total num-ber sold.. 4,489,794	126,604
Total number in use 4,363,190.	

The great durability of our Rings is shown by the fact that we have more rings in use over twelve years old than all we have sold for repairs.

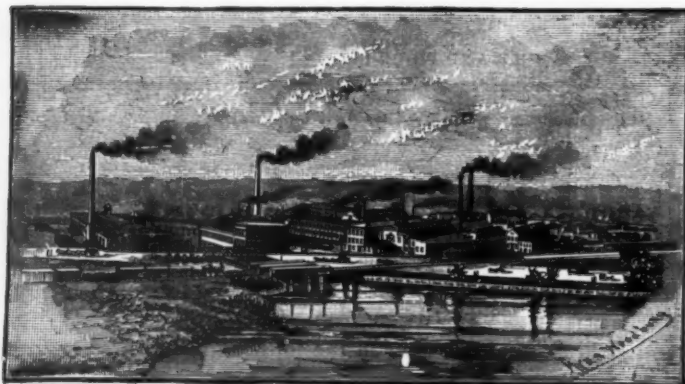
This statement shows unmistakably that a mill once supplied with our rings need think but little of the cost of repairs. As the number sold for repairs is an average of about twenty per cent. of the number sold the tenth year before, the average life of our rings will be at least twelve years.

Do not make the mistake of ordering new frames without specifying Double and Adjustable Rings. While they cost more to begin with, they are much the cheapest in the end, on account of their uniform excellent quality and unparalleled durability.

As an encouragement to use none but the best of Rings, we reduced the price on and after the first day of January, 1885, of those 1 1/2 inches or less in diameter, without holders and screws, to be used only to take the place of our rings worn out, to 12 cents each.

Washburn & Moen Manufacturing Co., Worcester, Mass.

Wire Drawers, and Manufacturers of Iron and Steel Wire of Every Description.



Iron and Steel Telegraph and Telephone Wire.

Patent Steel Wire Bale Ties, Pump Chains, Chain Wire, Steel Wire for Springs, Needles and Drills, Watch Main Springs.

Send for Price-Lists, Circulars and Descriptive Pamphlets on Our Specialties.



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21 Cliff Street,

New York City.

GLIDDEN PATENT

STEEL BARB WIRE.

The Best Fence Material in Use.

For Sale by Special Agents and Hardware

Proof against Fire, Wind and Flood.

Dealers in all Parts of the United States.

CHICAGO WAREHOUSE:

107 Lake Street,

Chicago, Illinois.

BALTIMORE Manufacturers' Record.

Published Every Saturday by

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I. E. Edmonds. J. W. Bigsby. Wm. E. Edmonds.

R. H. EDMONDS, EDITOR.

—OFFICE.—

71 and 73 Exchange Place, Cor. Commerce St.,

—BALTIMORE.—

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—SOUTHERN OFFICE, ATLANTA, GA.—

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 Reading Notices 50 cents per line each insertion.

BALTIMORE, JANUARY 9, 1886.

CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. Reaching so many capitalists in all parts of the United States seeking profitable investment in the South, the MANUFACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more.

It is reported that the Roanoke Machine Works, of Roanoke, Va., have secured orders for sufficient work to justify them in enlarging their force from 300 to 800 hands at once, with the probability of having to run their works to the full capacity of 1,200 hands. From all sections the reports of industrial interests are encouraging, and it looks as though 1886 will be a year of much prosperity.

THE Virginias, of Staunton, has been consolidated with the Industrial South, of Richmond, Va. Mr. Hotchkiss, the editor of the Virginias, will continue with the new paper, and the Industrial South, with this additional talent and the new features that the change will introduce, will become a still more valuable Southern industrial journal.

Protection Good for Farmers.

"The BALTIMORE MANUFACTURERS' RECORD takes the ground that a protective tariff is beneficial to the farmers. The drift of public opinion in the West and South is, that a protective tariff is chiefly beneficial to the manufacturers in the East."—The Brenham, Texas, Banner.

The Banner may rest assured that we would not advocate a protective tariff if we were not thoroughly convinced that it would be beneficial to the farmers of the South, for unless the farmers are prosperous, the South as a whole will not be prosperous. One of the strongest arguments in favor of developing the manufactures of the South (and let it be remembered that without a protective tariff the South cannot become a great manufacturing area) is the good that Southern farmers will receive therefrom. The only hope of agricultural prosperity in the South is diversified farming. Cotton may partly give way to corn, but this is only a beginning of the work. There must be a wide diversity of products, and this cannot be secured until there is a home market for everything raised on the farm. What inducements have about nine out of ten of Southern farmers to engage in raising fruits, vegetables or poultry, or making butter? If they raise fruit, it must either rot on the ground or be fed to the hogs; of vegetables the same is true. If they attempt dairying, their butter, even if well made, will not command remunerative prices, and their chickens or eggs they must trade off at the nearest country store for dry goods or groceries, receiving about 8 to 12 cts. a piece for the former and often not that much per dozen for eggs. No wonder Southern farmers do not raise more of these things. They find that the demand is less even now than the supply. How quickly though this changes wherever a new manufacturing center is developed. There will be found consumers for all these products of the farm, and there the farmer can sell at good prices everything he can raise. He becomes more prosperous and his land steadily enhances in value. This is the good effect of manufactures. And so it will be all through the South. The South really needs, not simply thousands, but millions of non-agricultural producers—people who would consume the widest diversity of farm products—and this can only be secured by building up the industrial interests of that section. This, of course, can only be done with the aid of a protective tariff.

A letter in the Memphis Avalanche regarding a new mining company, says:

"They own six claims, the principal one of which is known as the ——— lode, and is said to be of unknown richness."

The great trouble with many mining companies is the "unknown richness" of their mines; their stockholders would like to hear a little more about "known richness."

Ramie Cultivation.

In a late issue the New Orleans States says that a successful decorticator for ramie and other fibrous plants has been patented in this country, and that a company has been organized in New York to manufacture this machine. As we have before stated, the subject of ramie cultivation has for several years attracted great attention in the South, offering, as it does, a new source of much profit to Southern farmers, provided the long-needed decorticating machinery could be secured. Many machines have been invented for this purpose, and while some of them were partially successful, it is stated, that until the last one appeared, there were none that were entirely satisfactory in their workings.

The possibility of adding to Southern agricultural productions a crop that is as profitable as ramie is claimed to be, is of sufficient importance to justify the deep interest which has been taken in ramie. There is great need of diversified agriculture in the South. Under the curse of the all-cotton system, Southern agricultural interests have continued greatly depressed, and while here and there we find prosperous farmers throughout the South, it is unfortunately too true that a large proportion are making but little headway against financial troubles. The friends of ramie claim that its cultivation would be very profitable, the plant yielding three crops a year, and that it cannot be injured by worms nor floods, even if the fields are under water for several months.

A FEW weeks ago we stated that the probabilities favored a great activity in railroad building in Texas next year. In truth, the outlook is favorable for much railroad construction in all sections, but Texas especially promises to do extra well in this line. In speaking of this activity the Fort Worth Gazette says:

"The road from San Antonio to Aransas is being rapidly constructed, and engineers are looking for a northward line for the road from San Antonio into the counties of Kerr and Kimble; the Santa Fe is being extended northwest to Brownwood; grading on the Fort Worth and New Orleans is rapidly going on, and steel rails for the road are coming in daily; and there is a general movement all along the line. The Marshall & Northwestern to Paris, the extension of the Dallas Trunk southwest, the extension of the Santa Fe from Dallas to Paris, the extension of the Fort Worth & Denver through the Panhandle to a connection with the Kansas roads, the extension of the Santa Fe from Fort Worth to a connection in the Territory with the St. Louis & San Francisco, the Fort Worth and Rio Grande to Brownwood; these and others are the rumblings that presage the coming railroad storm. And it is not too much to expect that the end of 1886 will see a regular railroad boom in the State that will attract to it heavy immigration."

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$3.00 a year.

The rapid growth of some of the new cities of the South, such as Birmingham, Anniston, Roanoke, Winston and dozens of other places, has so absorbed public attention that the progress of older places fails sometimes to receive due notice. Montgomery, for instance, like Memphis, has lately taken unto itself a new spirit of push and enterprise, and is forging ahead in a way worthy of Birmingham. The Advertiser gives a glowing picture of Montgomery's prosperity. New houses, it says, are going up everywhere and a special feature of the building boom is the large number of fine private residences. Boston capitalists are investing \$250,000 in new water works, the sum of \$300,000 is being put into a great warehouse and elevator, iron works are being doubled, street railroads built, and on all sides is seen evidence of Montgomery's new life.

What is true of Montgomery in the way of growth and prosperity, is also true of Memphis. It was only a few years ago that Memphis emerged from the fearful yellow fever visitation almost a ruined city. Burdened with taxes, no adequate sewerage, her trade seemingly hopelessly lost, and thousands of her citizens either dead or located elsewhere, the outlook could scarcely be more dark and gloomy. To-day we find Memphis a prosperous city, with her population about doubled, her business men pushing out into new fields, new railroads centering there, manufactures increasing, a complete sewerage system established, the health of the place vastly improved and everything pointing to a prosperous and populous city.

IN their holiday number the publishers of the Northwestern Miller have surpassed even their former efforts in this line. It is a paper of some 100 pages, and is a splendid issue, both as to contents and mechanical get up.

A dispatch from Buffalo, N. Y., announces the purchase of an immense tract of land in North Carolina, stated to be 225,000 acres, by a syndicate of Northern capitalists who propose to colonize it on an extensive scale. The land is situated in the Eastern part of the State.

WHAT has become of the new town of Whittier, N. C.? Is it making good progress or are the unfavorable reports, that have lately appeared in several papers regarding it, true?

ADVERTISERS wishing to reach manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the BALTIMORE MANUFACTURERS' RECORD. We are always prepared to furnish proof of our claims as to circulation.

Birmingham's Exceptional Prosperity—The Tariff and the Internal Revenue.

[Special correspondence BALTIMORE MANUFACTURERS' RECORD.]

BIRMINGHAM, ALA., January 4, 1886.

The holidays have come and gone without witnessing any extraordinary features of life or industry in this region. As might be anticipated, activity of the business sort has, perhaps, fallen off a trifle here, as, doubtless, elsewhere in the country. Needless to state that the closing up of the old year's affairs has occupied pretty exclusive attention in most directions for a week or ten days past. Still, while such things have tended to withdraw attention from the trade future, there has been enough in the present to satisfy the most active of our people who happen to be interested in iron matters. The market is stationary at the figures quoted last week, but firm at the advance already realized—i. e., \$16.50 per ton at furnace for No. 1 foundry pig iron. In all other departments—in rolling mill productions, pipe, &c., &c.,—and in general business lines the situation remains unchanged.

As I have had the pleasure to remark heretofore, Birmingham has been making money steadily for several years, notwithstanding the serious depression which has harassed nearly the whole of the Union. During the year just closed times have been better with us, in the aggregate, than ever before. As an illustration of this fact, at Xmas tide a number of charitably disposed people got up a subscription to provide any very poor people who might be found in the city with food and necessary coals and clothing, that the genial warmth of the celebration might reach every soul in the community. The amount raised was not large, and yet the committee in charge of the fund had some difficulty in expending it—there were hardly any cases of actual destitution within the corporate limits. All of our laboring people, as far as I can learn, have been able to find employment during the entire year, and merchants and manufacturers have enjoyed fair if not rushing business. The cotton crop in the immediate district was not a full one, and the small farmers are not as well off as they hoped to be; but those of this class who are in debt are so to amounts small enough not to particularly bother the merchants who must partially carry them for another season, and the whole matter, which forms the sole exception to the otherwise complete record of local prosperity, is of minor importance.

There can be little question that the iron interest and all other manufacturing interests are living in hope that the kingly commodity may make a few steps more in the upward direction it has recently condescended to take, and that soon. I take it to be a pretty straight answer to the statements of papers unfriendly to Southern industry, which have asserted, for example, that our iron-masters have been "breaking themselves as well as the markets with their cheap iron," that these same iron-masters do not appear to be particularly anxious to see iron go any higher for the present. We do not have to look very far to find a reason for this sentiment. With iron at present prices there is a very fair margin of profit for Birmingham furnaces, and that, too, combined with absolute control of the American market. Iron is yet too low to give us much competition anywhere. Orders from the East, and from Louisville, St. Louis, Cincinnati and Chicago, tend to show that neither Eastern nor Western furnaces yet consider themselves in a position to challenge the supremacy of Birmingham pig metal among consumers. Should iron advance a couple of dollars more per ton the conditions might change somewhat, and many producers who are still shut out of the markets might be

able to come in, as they certainly will whenever prices touch the shortest point over cost. So, while other centres may be looking forward with anxiety to some farther boom in iron, this district is, or ought to be, amply content with the good things of the present.

In his interesting review of the iron and steel industries for 1885, Mr. James M. Swank, vice-president of the Iron and Steel Association, remarks that the future of the interest would look bright indeed but for the threat of tariff revision. It is fortunate that, since the assembling of the Congress, there have been wide and strong evidences that the masses of the people are not favorably disposed toward the movement of the free traders against American industry. It is probable that the astute leaders of that movement are surprised to find that the people of the East, North and West understand rather clearly that their agricultural and mercantile interests are closely identified with those of industrial capital and labor in their midst. Free traders will discover that the farmers and traders of the Lake Superior iron regions will not allow their representatives in Congress to favor the free raw material scheme, which would paralyze the ore industry of that section, with its 50,000 dependents and \$90,000,000 of invested capital; and the hundreds of large communities associated indirectly with other industries give evidence of a like vigilance.

It must be confessed that the greatest amount of indifference displayed in connection with the tariff question is to be seen in the South, the section certain to suffer most from any radical change in the tariff policy of the government. It is possible that some of the native industries whose chief seats are in the North might be able to survive approximate free trade, because they have millions accumulated under protection to fall back on, and, perhaps, organization and facilities so perfected as to leave foreign producers, even with their advantage in cheaper labor, little if any superiority in open competition. Supposing that the steel monopolists of Eastern Pennsylvania were sure of preventing the use of any but the Bessemer steel process in the United States, and, in addition, could secure foreign slave labor ores free of duty! They might well be thought able to get along without much protection. But what was fun for the boys was death to the frogs, and the destruction of the iron mining interest in New York, New Jersey and Virginia, and the monopoly embargo upon steel production in the South, would present an interesting reverse side of the picture. The New South is not blessed with millions salted down by manufacturers under high protection, and to keep things pleasant in the reunited family, about which so many distinguished fellow-citizens gush between the "sherry and champagne," the South ought, in all fairness, to have some sort of show to at the least nurse its infant industries a little before the maternal nourishment of fair Columbia is dried up or seriously watered by Act of Congress.

Still, as I remarked, there is an uncomfortable indifference to this all important subject, even in Southern circles most directly and vitally interested. I mean indifference on the part of those whose interest it is to perpetuate the policy of reasonable protection to native industry; for there is neither indifference nor inaction on the other side of the question. It is sad but true that most of the brains, means and force of the present attack upon American industries comes from one of the States claiming to be numbered among the progressive Commonwealths of the New South. Of all sections of the Union the New South can least afford to do without protection, and yet it is to the influence of the single State

of Kentucky at Washington that Southern industries owe the greater part of the danger that now clouds the horizon of their future. If it be true, as the prohibitionists assert, that whisky is at the bottom of 90 per cent. of the crime committed in the United States, it is even more certain that whisky is the cause of nearly 100 per cent. of the current tariff agitation. Mr. Carlisle, Mr. Beck, Mr. Watterson, and all the other brilliant Kentuckians who shine in the counsels of the free trade branch of the Democratic party, understand that the whisky monopoly in Kentucky demands a continuance of the unrighteous and undemocratic internal revenue system. They and their alcoholic constituents know thoroughly that the revenues of the government are to be pruned down, and that if the knife is not applied to the customs tariff, it will be to the taxes on whisky and tobacco. As long as those onerous taxes are maintained, the whisky manufacture, at least, must remain a monopoly in the hands of a limited number of capitalists, since, under present conditions, none but people of large capital can engage in it; and so every effort has been made and is being made to continue the partnership of the government and people in the liquor business, and to coincidentally impoverish countless legitimate industries, with all the capital and labor of our own people that they employ. So Kentucky, which ought to be in the van of Southern industrial progress, lends its power to a movement calculated to throttle the struggling manufactures of the section of which it claims to form a part—and the largest part, of course.

Some of the free trade influences in Kentucky are not unmindful that the protection sentiment is gathering strength throughout this section, although that sentiment is not as apparent as it deserves to be, or as it would be if organized properly. Recently the Louisville Courier-Journal contained a characteristic article written at the sugar interest of Louisiana, in which it was suggested that the tariff on sugar was such an exceptionally good thing that it might be left alone and untouched, while the axe was being applied to the roots of other protected interests. The sugar planters and manufacturers of the Gulf are rather too old birds to be caught with chaff of that description. Their interest has been organized and has been a power at the national capital for some time. That, of course, is the reason why the whisky interest would like to spike their guns with concessions; but the sugar men have studied the tariff question, and have had experience enough of politics and politicians to be convinced that once the free trade crawfish eat a single hole through the levee of protection, the whole structure is bound to go in short order. But the effort on the part of the Courier-Journal to placate the sugar interest, because of the organization and strength of that interest, is an excellent argument in favor of the effective organization and concerted action of other Southern industries. Very likely, if the Southern iron interest, with its millions of invested capital and many thousands of workmen directly or indirectly identified with it, were in a position similar to that of the sugar industry, and as able to make trouble for the free traders in and out of Congress, the latter would be found more than willing to include iron among the things which had best be respected and excepted in the general effort to destroy American manufacturing industries in the interest of the whisky monopoly of Kentucky and Illinois. All Southern manufacturers or producers of protected commodities should earnestly reflect that their enemies are active, able, determined, and amply supplied with that ultimate argument which divides the honor of being the root of all evil with the thing at the base of the free trade outbreak—and that, of course, is Whisky.

G. B. WEST.

The Steel Patents.

If the report is correct that the Commissioner of Patents has decided to concede priority of invention to Jacob Reese, in the matter of the Basic steel process contest, the probable effect upon the industrial interests of the New South is something of the greatest importance. Some time ago The Times-Democrat explained the litigation over this process, which has been in active controversy both in the department and the courts. The Basic process is one by which highly phosphorous ores, such as most of our Southern ores happen to be, can be manufactured into steel quite as well as can the more phosphorous ores. The invention of the process has been claimed by Reese, and also by the proprietors of the Thomas-Gilchrist patent. The latter, who were "on top" until recently, sold their rights to the people who control the production of steel in the United States by the Bessemer process, and this Bessemer interest has been spending time, talent and money in the effort to bottle it up so that the country, but particularly the Southern iron districts, should reap no benefit from it.

This was, and still is, a scheme of extreme monopoly, but it is nothing so very unnatural when the circumstances are considered. While only non-phosphorous ores are susceptible of transformation into merchantable steel, the control of the entire steel industry of the Union is safely in the hands of the clique owning the Bessemer process. But once let loose a process, open to manufacturers generally, by which something as good and merchantable can be made from the ordinary run of phosphorous hematites and limonites, and the Eastern monopoly of steel would vanish even more certainly and rapidly than the late monopoly of iron production by that region.

At present, while the South is successfully underselling the Pennsylvania iron makers in their own markets, we have been and still are paying heavy tribute to the steel makers of the East. The sole reason why we have been unable to escape from this serfdom, is that the same people who levy the tribute hold in their hands—or thought they did, until the latest decision—the instrument of our freedom and independence.

As long as the Bessemer interest was certain of control of the Basic, use of the latter was never allowed. But now it appears that the sale of the Thomas-Gilchrist patent to the Bessemer Company did not carry control of the Basic process, because it is decided that the Basic process was rightfully the discovery and property of Jacob Reese, and not of Thomas. Of course it is just possible that the Eastern steel syndicate might be able to buy out Reese, as it did his rival, but it is hardly probable. The intention of such a purchase and sale would be too palpable, and it is doubtful if the government or the courts could not find something to say in a transaction, the purpose of which would be only to prevent the use of a valuable thing, patented by the government that it might be used. The chances are that it might be used. The chances are that the Reese Basic process will be offered to the industrial public very shortly. It is understood that the inventor has already opened negotiations with Birmingham (Ala.) capitalists, with a view to the establishment of a large plant at that place, and it is likely that similar movements will be inaugurated elsewhere in the South as soon as the facts become thoroughly known. With the Basic process at command, the New South will attract quite as much attention as a steel as it now does as an iron-producing section.—Times-Democrat.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the BALTIMORE MANUFACTURERS' RECORD. We are always prepared to furnish proof of our claims as to circulation.

MINING NOTES.

By T. K. BRUNER, Salisbury, N. C.

At this season it is interesting and profitable to note the progress of mining as an industry in North Carolina. It is interesting as historical industrial facts worthy the attention of all who keep up with the activity of the times, and profitable as a pointer to those seeking for investments in the line of mining. The readers of the MANUFACTURERS' RECORD have been kept posted as to the movements in mining circles, and are prepared to appreciate a concise, practical resume of the work going on in this field. The prospects for greater production, greater activity, and for the introduction of large and costly plants of improved machinery, were never so flattering as just now. 1886 should mark an era in mining, not only in North Carolina, but in the whole South.

In the "gold belt" of North Carolina much work has been done during the last six months, most all of it of a prospecting or developing character. In

GUILFORD COUNTY,

the North State has been prospected to a depth of more than 300 feet, and the sinking is still going on. It is designed to test the property thoroughly. At Fisher Hill work of this character is being prosecuted with successful results. There are a number of valuable properties in this county which are idle. But little work is being done in

DAVIDSON COUNTY

just now. It is rich in metalliferous veins carrying gold, silver, copper, lead and zinc, and has some notable properties, but at present all are idle. Some work has been done at the old Emmons mine recently, but there has been no practical resumption of work. In

RANDOLPH COUNTY

the Hoover Hill takes the lead. They have a 20-stamp mill, and make an average yield of five to seven thousand dollars per month. The output from May to November, 1885, inclusive, amounts to more than \$48,240. Work is being conducted at the Herring, Winslow, Sawyer, Davis Mountain, Winingham, Cable Creek and Johnson mines, and at a few other points, but in a small way.

MONTGOMERY COUNTY

is just now the scene of the greatest activity ever known within its borders. The Big Russell is producing fairly, and so is the B. T. Coggins, while work has been going on at the famous Sam Christian, the Steele, Titus Coggins, Bright, Ophir, Woodrun Creek and the "Knight property." All these and other properties will be active in 1886.

STANLY COUNTY

is rich also in free gold, but from causes unknown to the writer there has been little or no activity there recently. Some work is going on at the Biles mine, and some little at both the Crowell and Barringer mines. The latter is a very valuable property and will probably be active during part of this year. But little has been accomplished in

ROWAN COUNTY

during the past year. It is among the richest of the gold-producing counties, and has produced more than any other county in the State. The prospects for 1886 are based on the assumption that Gold Hill, the most famous property in the State, will become active soon. The new London company have already begun work, and it is understood that it is to be pushed vigorously during the year. Drnn's Mountain will be worked, and so will the Holtshauser. It is probable that Dutch Creek, Gold Knob, Sugar Springs, the Rowan Mining Co's various mines, and perhaps others, will be active during this year.

CABARRUS COUNTY

has not kept up her usual record. Some of the best mines have been dormant during part of 1885, but it may be safely asserted

that 1886 will usher in changes for the better. The Phoenix, Quaker City and Reid may be depended on, while it is expected that the Reed, Rocky River and Shive will resume operations during the year. There are a number of splendid properties in this county which are too valuable to remain idle long.

MECKLENBURG COUNTY

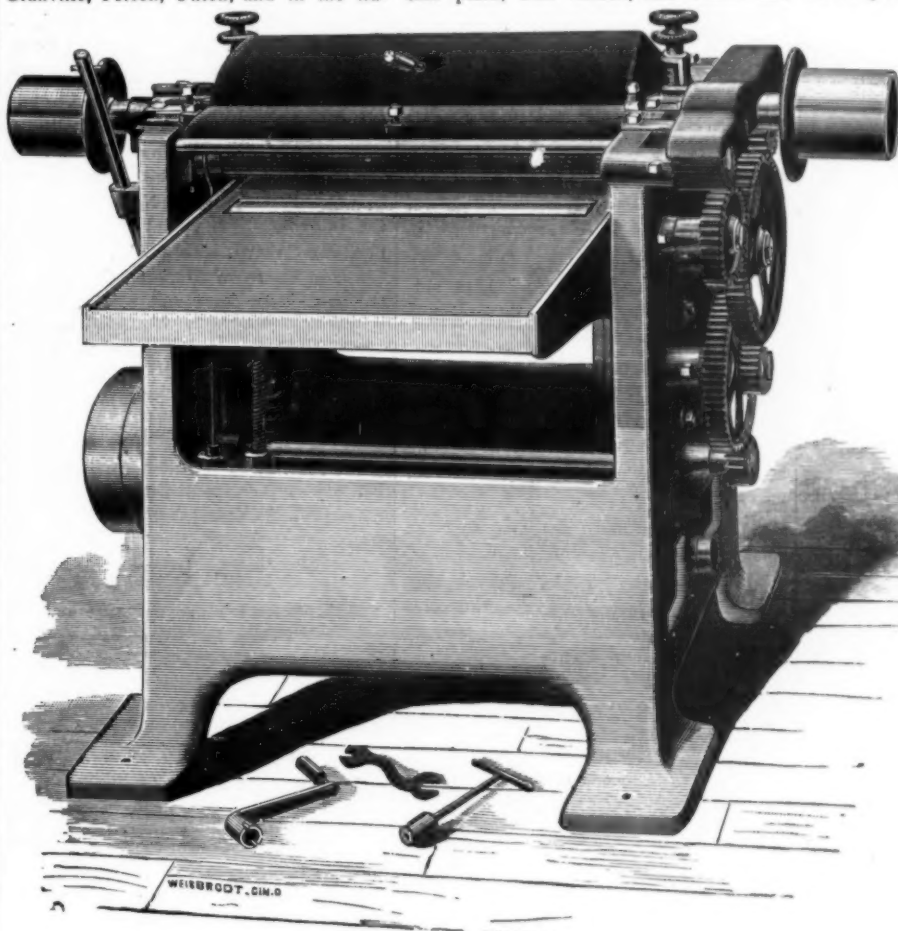
has a large number of deposits, but comparatively few are being worked. The St. Catherine, Frazier, Capp's Hill and the Rudisil will doubtless continue in operation during the year, while the Henderson, Summit Hill, Dunn and Johnston are expected to be developed.

In Gaston county, the King's Mountain and Long Creek mines have been worked to some extent. McDowell county has two very energetic companies working the Vein Mountain mine and the property adjoining. The Marion Bullion Co. was the subject of a notice in a recent issue of the RECORD. The above list, comprising some fifty mines, only includes those which have been active during the last six months, and which are likely to remain so during all or part of this year. There are other mines in Moore, Granville, Person, Union, and in the tra-

who have aimed to produce in this machine a planer that shall do perfect smoothing and a great deal of it. The machine planes 26 inches wide and 6 inches thick, and on account of the manner in which the pressure bars are arranged in connection with feeding rolls, no chipping or clipping or imperfect planing can take place in the center of board or on the ends. The machine is substantially built of the best materials, and the manufacturers claim that it is the finest machine for the purpose yet produced. For a complete description we refer to the following, from the company's catalogue:

"The demand of the trade in many cases calls for a medium weight machine for both planing and smoothing—something that has a powerful, steady feed, material enough in itself to stand a heavy strain, and all the latest improvements of a pressure bar on each side of knife for doing the best and finest smoothing that can be done on any machine.

The frame of the machine is of the most improved construction for great strength and strain at the most vital parts. The bed is cast plain, well braced, and raises and



PLANER AND SMOOTHER.

montane section of the State, which are either active now or will be during 1886; but enough has been itemized to show what an improvement may be expected in the output for this year. At the Charlotte mint for the last fiscal year ending June 30th the bullion receipts amounted to only \$187,652.29. It must be remembered that the Sam Christian, Hoover Hill, the Shuford (in Catawba county) and other mines shipped their bullion out of the State. As an indication of the increased ratio for the next fiscal year, during the month of July following this report the receipts amounted to \$24,277.47.

Altogether, the view is encouraging and promising, and should the same spirit of progress have sway during 1886 as has been manifest during the last six months, then may be expected the adequate development that the mineral resources of North Carolina so richly deserve.

Planer and Smoother.

The cut on this page represents an improved smoothing planer, recently perfected by the Egan Company, of Cincinnati, Ohio,

lowers in dovetail slides by an upright shaft convenient to the operator. Any wear can be instantly taken up from the outside of frame. The head is steel, and of the most improved construction; it is belted at both ends and has two 5-inch face pulleys to receive the belt.

A chip breaker is on each side of knife—one in front, which can be set as firmly on board as desired, and the other on back being the extension which comes down from bonnet; this last named swings from a center, and both combined, make the most perfect contrivance for holding the board as it is fed to the cutter head, and enables a machine of this kind to do very perfect planing.

The feed is very powerful, and the four rolls are large and will feed the board against almost any kind of a cut, either in hard or soft wood. The adjustments of chip breakers and roller boxes, both for the two upper feed rolls, and also the two in the bed are very convenient to the operator. Both the upper feeding rolls are covered so that no shavings or chips can get in. A countershaft specially designed is furnished

with machine. The loose and tight pulleys are 12x5½ and should run 1,000 revolutions per minute."

For cuts and prices of this or any other wood-working machinery, address The Egan Company, 228 to 248 W. Front street, Cincinnati, Ohio.

Literary Notices.

BREAD WINNERS ABROAD. By Robert P. Porter. New York: J. S. Ogilvie & Co. \$1.00.

This is a handsome volume of 420 pages, containing one hundred letters written from all parts of Great Britain by Robert P. Porter, relating to labor and its wages, and the condition of the working classes, and comparing the condition of workmen in Great Britain and America.

It is a work possessing especial interest at the present time, in view of the efforts likely to be made in Congress to reduce the tariff. Proprietors of factories and mills can do much in aid of the cause of protection to American labor by circulating this book among their employees. In the South particularly there is need of a more general acquaintance with tariff principles, and a better knowledge of the results of free trade in other countries.

STEM TO STERN. By Oliver Optic. Boston: Lee & Shepard.

This is the fourth volume of the "Boat Builder Series." As in the preceding volumes it is largely a story of adventure on Lake Champlain and its shores. Like its predecessors a considerable portion of the work is devoted to business and mechanical information. The author has endeavored to impart some information in a general way in regard to shipbuilding, and has indicated in what manner the ambitious young boat-builder may obtain the amplest instruction in this difficult art. "Oliver Optic" is widely known as a most prolific writer of books for the young; and the present volume, like his other productions, will be found an interesting, instructive and healthful book for boys.

A Pulley Covering.

On November 17, 1885, a patent was issued to H. S. Dulaney, of Baltimore, on an invention to which the attention of manufacturers is directed. National Pulley Covering is a composition of cork, linseed oil, &c., about one-eighth of an inch in thickness, faced with a cement, and thus prepared to be applied to pulleys without removing the belt. It is claimed to be a positive cure for slipping belts. The covers are cut to fit the pulleys, and as the cement is soluble in water, it has only to be run on under the belt and allowed to stand during the night. In point of durability, effectiveness and ease of application, the inventor claims superiority over every other covering for pulleys.

Messrs. H. S. Dulaney & Co. have issued a circular which is descriptive of the article, and also contains testimonials from well-known manufacturers throughout the country.

MESSRS. MERCHANT & CO., Philadelphia, have opened an office in Chicago at 135 Lake street, where they will carry a full line of their Guaranteed Roofing Plates—"Gilbertson's Old Method" and "Camaret."

Subscribe to the Manufacturers' Record.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

ALABAMA.

The Capitol City Water Co., Montgomery, Ala., previously reported, have increased their capital stock to \$300,000.

Miller & Smith, Anniston, Ala., are enlarging their planing mill, and will put in some new machinery.

Murray & Stevenson, Anniston, Ala., will, it is reported, erect a machine shop at their foundry.

C. W. Buckley, Montgomery, Ala., and others have purchased 4,000 acres of coal land in Warrior county, Ala. A stock company, with a capital stock of \$100,000, is being organized to develop it.

The Elliott Motor Company, capital stock \$100,000, reported last week as incorporated at Mobile, Ala., will build a factory at that place.

FLORIDA.

The Orange Dale Lumber Company are erecting a saw and planing mill at Orange Dale, Fla.

It is reported that G. M. Long & Co., of Chicago, will start an ice factory at Tampa, Fla.

The contract for erecting a county jail at Palatka, Fla., has been let to John D. Fred, of Macon, Ga., at \$12,640.

The contract for building a railroad from Jacksonville, Fla., to Millen, Ga., has been let to M. T. Dill.

GEORGIA.

A. M. Dolph, R. P. Myers and others have incorporated at Atlanta, Ga., the Atlanta Steam Laundry Co., capital stock \$25,000.

The Atlanta Bridge & Iron Works has been chartered at Atlanta, Ga., with W. R. Tuttle, of Knoxville, Tenn., president, and J. C. Kirkpatrick, secretary and treasurer. This is a reorganization by the creditors of the Atlanta Bridge Works.

The firm of Nace, Winburn & Co., has been formed at Atlanta, Ga., to do a planing mill and lumber business.

Polk & Vickers are erecting a large turpentine still at Leliaton, Ga.

KENTUCKY.

The Cincinnati & Newport Iron & Pipe Co., Newport, Ky., have shut down their works for repairs.

George F. Salt, A. Bradley, G. W. Stubbe and C. W. Cole, have incorporated at Covington, Ky., the Interior Oil & Gas Co., capital stock \$150,000, to bore for oil, gas, salt and other minerals.

Burnett Mann, Dover, Ky., will add flour mill machinery to his corn mill.

LOUISIANA.

Edmund M. Ivens, Harry H. Ivens, R. S. Wright, Charles R. Plumbe, Joseph C. Raymond and others have incorporated at New Orleans, La., the Ivens & Son Machinery Company, capital stock \$60,000, to manufacture machinery and operate establishments for working metals and wood.

MARYLAND.

John H. Mitchell is opening a granite quarry near Level, Md.

Proposals will be received by the water board of Baltimore for furnishing about 1,185 tons of cast iron pipe and fittings for same.

The William B. Price Manufacturing Co., capital stock \$100,000, has been incorporated at Baltimore to manufacture paints, with William B. Price, John H. Winkleman, Henry W. Bennett, J. Ross Miller and John E. Reeves, as incorporators and directors.

NORTH CAROLINA.

The capital stock of the National Knights of Labor Tobacco Company, reported last week as organized at Raleigh, N. C., is \$10,000.

SOUTH CAROLINA.

A. Tanner, P. P. Lemaster and J. Gaines have established at Cowpens, S. C., a sash and door factory.

It is proposed to organize another electric light company at Charleston, S. C.

It is reported that a saw mill and a planing mill will be started at Fountain Inn, S. C.

W. H. McLeod, will erect a saw mill at Beaufort, S. C. The machinery has been received.

A. H. Wolfe, Sandy Run, S. C., will rebuild his grist mill, recently reported as burned, next fall.

Pierson & Co., of New York, have purchased a controlling interest of the Columbia Gas Light Co., Columbia, S. C., and contemplate enlarging and improving the works.

TENNESSEE.

E. B. Chester, of St. Louis, is prospecting at Jackson, Tenn., with a view to locating at that place a factory for shaping timber for manufacturing purposes.

A company has been chartered to make charcoal in Hickman county, Tenn.

Tabler, Crudup & Co. will develop a lime-stone quarry 4 miles from Chattanooga, Tenn., and will probably erect works at Chattanooga for sawing and polishing marble.

A foundry and machine shop, it is stated, are being erected at Tullahoma, Tenn.

TEXAS.

The Wichita Water Power Co., Wichita Falls, Tex., are negotiating with parties from Minnesota for the erection of a large flour mill.

Coleman & Kennedy have started a wagon and carriage factory at Bonham, Texas.

Stinnet & Bucker have commenced the erection of a large flour mill, with roller-process machinery, at Sherman, Texas. The capacity will be 150 barrels per day.

The flouring mill, previously reported to be built by the Farmers Alliance, of Fannin county, Texas, will be erected at Bonham. It will cost \$25,000, and have a daily capacity of 100 barrels.

Work has been commenced on the machine shops of the Texas-Western Railroad at Houston, Texas. The road is to be extended from Sealey to La Grange.

L. P. Ogden, J. J. Crichton and E. C. Ogden have incorporated at Beaumont, Texas, the Beaumont Iron Works Co., capital stock \$30,000.

John Schuhmacher will erect an ice factory at La Grange, Tex. The machinery has been purchased.

William H. Lewis and U. H. Freeman are building the flour mill at Roanoke, Tex., previously reported.

R. W. Kendel, Weatherford, Tex., will organize, next spring, a company to manufacture castor and cotton-seed oil, to be known as the Weatherford Oil Co.

Sidney Pickard, T. J. Overmier, G. N. Edwards, J. D. Mitchell and E. M. McCracken have been appointed a committee by the Farmers' Alliance, of Parker county, Texas, to secure plans and estimates and select a site for the erection of a flour mill.

F. M. Robinson, Denison, Texas, has purchased a site on which an ice factory will be erected. Work will begin at once.

VIRGINIA.

Spencer Brothers, Martinsville, Va., are placing steam power in their tobacco factory at a cost of about \$4,000.

The Morotock Manufacturing Company, Danville, Va., are putting 2,000 spindles, 100 looms and other new machinery in their mill.

Steam power is being placed in the tobacco factory of Traylor & Spencer, Martinsville, Va.

Lawler & Holmes have received the contract at \$10,647 for erecting a station house at Norfolk, Va.

Bills have been introduced in the Virginia legislature to incorporate the Saltville & Cove Plaster Bank Railway Co., with a capital stock not to exceed \$500,000; the Chicago, Parkersburg & Norfolk Railroad Co., to extend from a point in Bath county to Clifton Forge, with W. W. Lucas and William Moore, of Marietta, Ohio; G. B. Gibbons, Isaac Scott and S. F. Show, of Parkersburg, W. Va.; as incorporators, and to allow the construction of a railroad from Goodson through Russell, Dickinson and Buchanan counties.

WEST VIRGINIA.

Sherman Weightman, of Williamsport, Pa., will erect a saw and planing mill near Stone Cliff, W. Va., next spring.

BURNED.

M. L. Patterson's gin and grist and saw mill at Oswehee, Ala.

The cotton-seed-oil mill of W. H. Stead & Co., Greenville, Miss. Loss on mill and machinery is reported as \$130,000.

The mill of Roberson & Madarius, Belew Creek Mills, N. C.

The tobacco factory of W. S. Carroll & Co. at Greensboro, N. C. Loss is about \$20,000.

James E. Bates' gin and grist mill in Amite county, Miss.; loss \$3,000.

The works of the Baratara Canning Co., Biloxi, Miss. Loss on plant is \$15,000.

The foundry and machine shop of the Brierfield Coal & Iron Co., Brierfield, Ala.; loss \$10,000. Will probably be rebuilt.

James Burns' mill in Carroll county, Ga. The shops of the South Florida Railroad at Sanford, Fla.; loss \$30,000.

Curlo & Forbs' gin and grist mill at Renzi, Miss.; loss \$1,000.

The cotton gin and shingle factory of James Bird, Washington, La.; loss \$4,000.

The brick tobacco factory of Ford, Moorman & Co., Lynchburg, Va. The loss on building and machinery is about \$20,000.

Chair and Broom Factory.

HENDERSON, N. C., Jan. 5, 1886.

Editor Manufacturers' Record:

We have bought machinery for steam laundry, chairs and brooms. Will be several weeks before we can commence work. Firm name will be W. Fox & Co. Several new enterprises are spoken of, but, at present, are not reported with any certainty.

S. H. ALLEN.

Planing Mill.

FORT SMITH, ARK., Jan. 2, 1886.

Editor Manufacturers' Record:

We are building a planing mill at this place, 60x120, with basement for shafting; and will the first of the year move our machinery from Van Buren to it, and put in more new machinery to make it one of the best-equipped mills in the State. The prospect for a large amount of building at this place next year is very good. The extension of the St. Louis & San Francisco Railway south to Paris, Texas, from here, will commence at once, as the engineers are now at work to push the grading of the roadway. There is a new band saw mill going up here to cut walnut and other hard woods.

There is a fine opening here for a first-class wagon factory, as we have the best of timber for that purpose. What we want is, for parties to come here and see for themselves. TENNEY, MARTIN & ANDERSON.

New Saw and Shingle Mill.

LUMBER CITY, GA., Jan. 4, 1886.

Editor Manufacturers' Record:

We have just come here from Niantic, Conn. We have purchased a large tract of timber, and propose to erect a mill at once for sawing lumber and making shingles for the Northern market. Our shingles will be made on a new style of lumber sawing machine, on which we have recently taken out a patent. SPENCER BROS.

WEATHERFORD, TEX., Jan. 2, 1886.

Editor Manufacturers' Record:

I will organize a company this spring in this place for the manufacture of castor oil and cotton-seed oil, though am now doing nothing more than placing the beans for planting in the hands of the farmers. It will be a private company, and will be called the "The Weatherford Oil Co." R. W. KINDEL.

Adding New Machinery.

DANVILLE, VA., Jan. 4, 1886.

Editor Manufacturers' Record:

The Morotock Manufacturing Co. is putting in 2,000 additional spindles, 100 looms, 8 cards, also slubbers, spoolers, speeders, drawing frames, &c. We wish you a happy and prosperous new year.

MOROTOCK MILLS.

CHATTANOOGA, TENN., Jan. 5, 1886.

Editor Manufacturers' Record:

We have a valuable sandstone quarry at Daisy being developed; marble of a new variety and color—fawn, chocolate and dove, mottled and striped—at Hiwassee, which we are now bringing into market. Will probably build works at this point to saw and polish it. Also, a limestone quarry at Boyce, 4 miles out, which will be developed.

TABLER, CRUDUP & CO.

Saw and Planing Mill.

WILLIAMSPORT, PA., Jan. 4, 1886.

Editor Manufacturers' Record:

Will erect a saw and planing mill near Stone Cliff, W. Va., early in the spring.

SHERMAN WEIGHTMAN.

LOCKWOOD, GREENE & CO.

MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I.

Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

\$100,000 Motor Company will Build Factory.

MOBILE, ALA., Jan. 3, 1886.

Editor Manufacturers' Record:

The Elliott Motor Company has been incorporated, capital \$100,000, but all the stock has not been taken yet. We expect to erect a factory here; cannot tell what the capacity will be. GEO. S. ELLIOTT.

Water Works.

PENSACOLA, FLA., Jan. 4, 1886.

Editor Manufacturers' Record:

Messrs. Bullock & Co., 11 Wall street, N. Y., are interested in the Pensacola Water Co. Two 2,000,000 gallon pumps; sand pipe, 190 feet above main portion of city; 10 1/4 miles of mains from 14 to 6 inches; 100 hydrants. City pays \$6,000 per annum. B. R. PITT.

Electric Light Plant.

PALESTINE, TEXAS, Jan. 2, 1886.

Editor Manufacturers' Record:

There is to be an electric light plant put in here at once of 500 lights, 50-horse-power engine. It will be in operation by first of March, 1886. J. F. PELLIS.

Ice Factory.

LA GRANGE, TEX., Jan. 2, 1886.

Editor Manufacturers' Record:

The ice factory will be erected by John Schuhmacher, who purchased the machinery but has not commenced. A. MARISCHEILLT.

MAYSVILLE, KY., Jan. 4, 1886.

Editor Manufacturers' Record:

We are fitting up a building for the purpose of constructing a fine grade of carriage work, commencing January 1, 1886, to be known as the Maysville Carriage Factory. At first our trade will be local, but, at no distant day, we hope to make strides with a very superior work that will be advantageous, not only to us but to the entire community in which we live. Maysville, as you are aware, is a remarkably thriving, pushing beautiful little city of about 8,000 inhabitants; located on the banks of the Ohio, about 65 miles above Cincinnati. With the best water privileges in the world, a splendid line of street cars, three plow manufacturers, four carriage manufacturers, nine places of worship, three tremendous distilleries, and three banks as responsible as any known to us, and to sustain all this we have back of us the finest soil in the world, and the noblest people to till it. MYALL & SHACKLEFORD.

SWAN QUARTER, N. C. Jan. 2, 1886.

Editor Manufacturers' Record:

I am now building a new saw and planing mill at Rose Bay, Hyde county, N. C., and will have shingle and corn mill attached. Expect to have things in operation by the middle of February, 1886. P. KNICKERBOCKER & CO.

MARTINSVILLE, VA., Jan. 3, 1886.

Editor Manufacturers' Record:

We are fitting our factory up with all the conveniences of steam power. Our factory is 50x100 feet, five stories high, and will cost about \$4,000 to fit it up. SPENCER BROTHERS.

BROOKSVILLE, FLA., Dec. 27, 1885.

Editor Manufacturers' Record:

Our tobacco works are already erected, and will accommodate 25 hands. We design making nothing but fine stock. We offer a market to all holders and growers of fine quality South Florida tobacco. A. C. CROOM & CO.

Advantages of Tuscaloosa, Ala.

TUSCALOOSA, ALA., Jan. 4, 1886.

Editor Manufacturers' Record:

Alabama is the acknowledged future center of Southern coal and iron production. But Alabama is rather a large place, and it is certainly very important to capital looking Southward, and Alabamaward for investment, to learn the natural key points of this great future industrial battlefield, for it is the occupants of these, who, in the long run, will certainly win.

The grand natural center of this center, so to speak, is not for one thing at Birmingham (though Birmingham is a place of grand natural advantages), for this reason, among others, that Birmingham does not share in that natural advantage which is the peculiarity of Alabama as distinguished from her sister Southern States, i. e., water communication with the Gulf. Upon this fact that Alabama has a system of waterways debouching square on the flank of the world's future grand highway of commerce, when the cutting of the Isthmus shall suck the shipping of the world through the Gulf of Mexico, rests the conviction of Alabama's future pre-eminence over other Southern

purposes; water power is an advantage unique, and cotton is at the door, and coal almost literally in the streets. Natural advantages so great cannot be long neglected, and now is the time for those meditating Southern investments to examine the claims of this section. Let them look and see if I do not speak the words of truth and soberness. J. W. CASTLEMAN.

The Bradley Upright Cushioned Helve Hammer.

The accompanying cut illustrates the perfected hammer, manufactured by Bradley & Co., Syracuse, N. Y. This machine is designed for use on all kinds of forgings in general iron working shops, railway car works, carriage factories, etc., with all kinds of die work.

The hammer is operated by an eccentric at the rear, connected by a pitman to the saddle or oscillator, which carries the helve, and to this helve the hammer-head is attached.

By the use of rubber cushions the force of the blow is multiplied many times, and a degree of elasticity is imparted that effectually removes all danger of breakage, while

adjusts all other working parts. The power and accuracy of the blow, simplicity and ease of adjustment, range of work and economy of power and durability of this hammer, are the excellent features on which the manufacturers base their claims of superiority.

Bradley & Co. manufacture eight sizes, the hammer heads of which range in weights from 30 to 500 pounds. The material used in their construction is the best throughout.

Any further information will be furnished by the manufacturers.

What Virginia Needs.

We take the following interesting and practical article from the Lynchburg News regarding agriculture and farm lands. If the judgment displayed in this article was carried out farming in Virginia would be the greatest money-making industry in the State.—Roanoke Review.

The article referred to above had reference to a division of our farms into smaller tracts, a judicious system of advertising to attract new comers to occupy our surplus land, the improvement of roads, engaging in diversified industries, etc. These things will not fail to bring prosperity to the State.

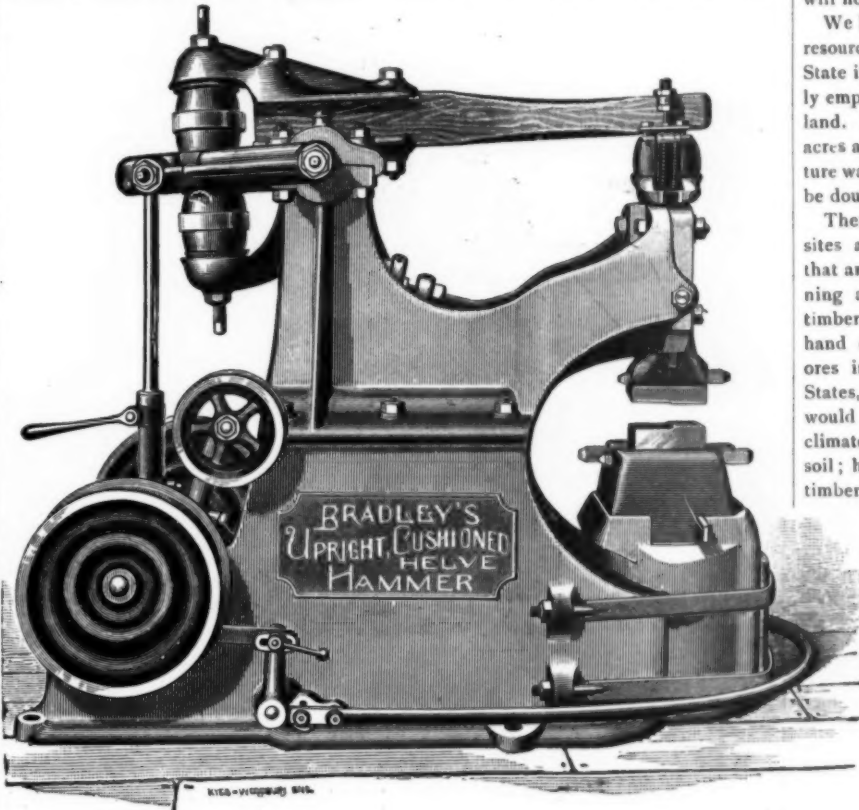
We have in Virginia ample and abundant resources to make her the most prosperous State in the Union if they were only properly employed. But we have too much waste land. If there was a farmer to every fifty acres and the "intensive" system of agriculture was pursued our productions would soon be doubled.

Then, too, we have too many splendid sites and opportunities for manufacturing that are not employed; too much water running away to the sea unused; too much timber in primeval forests untouched by the hand of progress; too many undeveloped ores in the bowels of the earth. Many States, with such advantages as Virginia has, would soon be on a boom. Her glorious climate is a dowry of itself. Her natural soil; her magnificent rivers; her wealth of timber; her millions of minerals; her noble population; her proximity to the markets; her churches and schools; her glorious history, all these things should make Virginia most attractive land for persons seeking new homes. There are many such in both this country and Europe. Vast numbers of people of the West and North are seeking more genial climates and their faces are turned southward. They are going to Georgia and Florida and Texas and Alabama, because those States are making efforts to attract them. So there

is a constant stream of new comers pouring over from the other side of the Atlantic, Englishmen, Germans, Scandinavians, seeking new homes; but few of them find their way to Virginia. The land sharks and the railroad agents get possession of them, and they allow themselves to be whirled away to the Northwest or the Southwest because they know not where else to go. Most of these are good, hardy men of small means, the best class of settlers to build up a country. The pauper classes are not now allowed to come.

What Virginia needs is more men and more money, and until she secures these she cannot expect to go forward as she has the right to do. And she cannot procure them without effort. They must be wooed like a coy belle, or they will yield to other suitors.—Lynchburg (Va.) News.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises, and needing machinery or supplies of any kind, will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.



THE BRADLEY UPRIGHT CUSHIONED HELVE HAMMER.

States equally blessed with raw material, and Alabama's natural center of production is wherever natural advantages as to raw material equal to Birmingham's combine with a situation on one of her waterways communicating with salt water.

The Northern reader will ask, Is there such a point? I answer at Tuscaloosa, Ala., ends the great Appalachian coal field. This is its furthest stretch southward, and at Tuscaloosa is the head of navigation of the Warrior river (which is already a fair river for 314 days of the year, and ultimately will be made navigable the year round). Northward from Tuscaloosa 12 or 15 miles, on the A. G. S. Railroad, begin inexhaustible deposits of ore of a purity as to phosphorus (a notable point in these days) far superior to the ores around Birmingham; at Tuscaloosa is magnificent water power, and above and below stretches the Warrior Valley, unsurpassed for cotton.

In other words, at Tuscaloosa coal will be cheaper than anywhere else in the State, because of the immense quantity which will be pressing there for outlet to the Gulf over the only water route from the great Warrior coal field. Ore will be there as cheap as at Birmingham, and of purer quality for steel

so thoroughly cushioning the jar that none is perceptible in the working parts of the hammer when the blow is struck. In this way the blow imitates exactly the action of a hand hammer.

The head gets away from the work instantly after striking, and the piece is not chilled. Thus the difficult blacksmith's trick of heating a cold iron rod by repeated, rapidly delivered blows is easily accomplished.

A very strong point in this hammer is that every working part is in full view of the operator, and is very simple and easily controlled.

A friction sleeve on the pitman, in the rear of the hammer, permits the length of the stroke to be adjusted instantly—a matter of considerable importance when doing a variety of work differing in size. The arrangement is such that the keys holding the upper and lower dies are removed as well as being driven in from the front; and by the use of the friction sleeve, previously referred to, the opening or distance between the dies while at rest may be varied from actual contact up to six or seven inches in the smaller sizes, and twelve to fifteen inches on the larger sizes.

In making these changes no other parts require adjusting, for adjusting the stroke

Southern Soil—Its Fertility and Cultivability.

ATLANTA, GA., Jan. 4, 1886.

Editor *Manufacturers' Record*:

Some experiments have just been made in the State of Georgia with fertilizers in intensive farming that are full of the most valuable instruction about the fertility of Southern soil, and especially as to the extent to which the Southern lands are capable of improvement under progressive tillage.

These experiments have been conducted for two years now under the liberality of an enterprising fertilizer merchant, Mr. G. W. Scott, the inventor and manufacturer of what has proven to be one of the most successful and popular fertilizers in the South. Mr. Scott's preparation is known as the Gossypium Phospho, and he has very cleverly pressed it upon the farmers by his plan of generous premiums to those using it with the most success and the best results.

Last year he offered large money prizes for the best yield of corn and cotton upon a single acre. This year he has offered heavy money prizes for the largest yield upon 5 acres. Last year the largest yield of cotton was 1,545 pounds of lint cotton per acre, or about three good bales of the best merchantable cotton. The average on all the acres tried last year was 572 pounds, or a bale and a half to the acre. The largest yield of corn to the acre was 116½ bushels, and the average was 81 bushels.

There were 43 contestants for the cotton and 9 for the corn prizes this year. The enlargement of the area to 5 acres was a widening of the scope of the experiment that was full of the best results for our agriculture and of the most valuable information about our soil. It was demonstrated that our land can be cultivated on an extensive scale as profitably as on a small scale by this system of intensive tillage. And it is also shown by these experiments that our Southern lands average high and admit of the best returns to the skilled and intelligent planter.

The contest was conducted under the auspices and supervision of Mr. Henderson, the State Commissioner of Agriculture, as a guarantee of Mr. Scott's entire good faith and fairness. This secured a scientific and impartial administration of the trial. And it also secured a just awarding of the prizes—something essential to give satisfaction—and gave proper prestige to the experiment.

The most rigid care was used to obtain absolute integrity in the reports of the trials. All applicants were required to get the certificate of three disinterested and prominent citizens of the county where the farmer resided. A justice of the peace was also required to certify that the three attesting citizens were reliable men and qualified to make an accurate report upon such a crop. The reports were all sent to the commissioner, Mr. Henderson, and by him were opened in the presence of a committee selected by the contestants.

There were 24 contestants who had each tilled 5 acres of land, amounting in all to 120 acres. On these 120 acres these gentlemen made 111,011 pounds of clean pure lint cotton, or an average of 925 pounds of cotton to the acre. This amazing result is over 2 bales to the acre. The largest yield was 1,579 pounds to the acre, and the smallest 597 pounds to the acre, or a bale and a third on one acre. Think, now, of the significance of this experiment—24 men with no concert of action, in different parts of the country, on different soils, of the same State, however, using the same fertilizer and the same method of tillage, producing the same average excellence of result. Think of 24 farmers on 120 acres of land raising an average of over 2 bales to the acre. Does it not testify loudly to the fertility of the soil, the excellence of the farming, and the superiority of the fertilizer? Above all else does it not prove that we have a most available soil, ready to make any response to intelligent demands upon it.

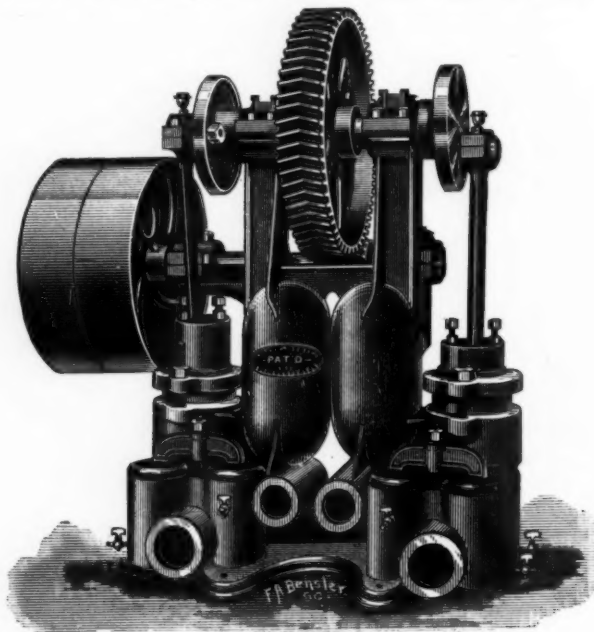
There are several things observable in this matter that are full of pleasant significance: 1st. The marked improvement in the farmers' tillage.

2d. The expanding fertility of the soil.

We find that upon larger areas of cultivated land the yield of cotton has increased in this proportion; the highest yield of cotton jumped from 1,545 pounds per acre to 1,579 pounds per acre, while the average leaped from 752 pounds per acre to 925 pounds per acre on larger areas. The average is 173 pounds per acre, or 23 per cent. more. This is improvement—real solid progress. In other words, our soil, under intelligent farming, is capable of absolutely indefinite improvement and fertility. I. W. AVERY.

A New Patent Double Plunger Geared Pump.

The accompanying cuts give a very good idea of the style and construction of the new double plunger pump, made by The Stewart Heater Company, 37 and 39 Clinton street, Buffalo, N. Y. They are made from entire new sets of patterns and are designed expressly to stand the strain of continuous hard work; as will be seen by the illustration they are driven by a belt. It is claimed that the plunger pump will do more hard work and last longer than any



NEW PATENT DOUBLE PLUNGER GEARED PUMP.

other pump made. These pumps are geared five to one, to be used for feeding boilers, pumping tanks, or in tanneries, paper mills, or any place where a good and reliable pump is required. The main shaft is two-inch steel, supported by two journals and driven by a gear wheel placed at its center. The gearing is spiral, strong and durable, and is almost noiseless in its action. The large gear is driven by a pinion flanged on each side to strengthen the teeth and keyed on the pulley shaft. The disc cranks on the main shaft are finished on face and edge. The crank pins are of steel and made large, so as to reduce the wear to a minimum. The connection rods are connected to the crank-pins by cap and box, so that the wear can be easily taken up at any time. The lower ends of the connecting-rods are connected to the center of the plunger by a new patented device, and the wear can be taken up by simply tightening up the set-bolts on the top end of the plunger. The lower openings shown are for the suction pipes, the other are for the discharge pipes. There are similar openings for discharge pipes on the opposite side of the pump. The openings are tapped to standard pipe threads. The air chambers are large and form a part of the frame to support the main shaft. The valves and valve-seats are bronze metal. By simply taking off one nut both the suction and discharge valves can be examined.

The valve-seats are screwed into the valve chambers. The valve or seats can be duplicated at any time. The bracket carrying the pulley-shaft of the double plunger pumps can be reversed so that the pulleys can be placed either to the right or left hand of the pump. Another novel feature is that it can be run as a double pump or as two distinct and separate single pumps, one pumping cold and the other hot water, or one pumping to tank and the other to the boiler. The pulley shaft is of steel, one and one-half inches in diameter. The crank pins are of steel, one and one-half inches in diameter. The pulleys are turned and faced. The plungers are iron or brass as ordered. The body of pump and valve chamber are furnished with drain-cocks so as to thoroughly drain the pump in cold weather. The journal boxes have covers hinged on to keep out the dust and grit from oil holes. The top end of connecting rods have brass oil cups with covers. The pump is compactly and strongly built and occupies but a small space, considering its capacity. Additional particulars can be obtained by addressing the manufacturers.

The Cotton Trade of India.

The latest received London Economist presents some valuable information respect-

ately regulated in conformity with the requirements of business, and although the Indian cotton industry is, like our own, sunk at present somewhat deep in depression, there is no reason to doubt that it will struggle through and again become fairly prosperous and progressive.

As regards the cotton industry, the Bombay presidency may be said to be the Lancashire of India. It contains 68 out of the 87 mills returned for the whole of India, and gives employment to 51,426 cotton operatives, working 1,650,036 spindles and 14,588 looms, the annual consumption of which is estimated at 1,630,930 cwt. of cotton. The remaining 19 mills are distributed thus: Six in the Bengal presidency, 5 in Madras presidency, 3 in the Northwest provinces, 2 in the Central provinces and 1 in Central India, Barar and Hyderabad respectively.

Concurrently with the development of the Indian cotton manufacture, there has been a rapid growth in the Indian exports of cotton goods, the figures for the past ten years being:

EXPORTS (BY SEA) OF INDIAN YARNS AND MANUFACTURED COTTON PIECE GOODS TO FOREIGN COUNTRIES.			
	Yarns, lbs.	Value, lakhs rupees.	
1885.....	65,897,000	244.11	
1884.....	49,876,000	192.61	
1883.....	45,378,000	181.68	
1882.....	30,786,000	126.88	
1881.....	76,901,000	128.25	
1880.....	25,862,000	110.92	
1879.....	21,336,000	88.64	
1878.....	15,800,000	68.20	
1877.....	7,926,000	36.73	
1876.....	6,228,000	26.69	

Years ending March 31.....	Manufactured Goods.			
	Gray, yds.	Bleached, yds.	Colored, printed and dyed, yds.	Handkerchiefs and shawls in the piece, No.
1885.....	33,140,000	159,000	14,608,000	968,000
1884.....	42,039,000	105,000	13,419,000	724,000
1883.....	30,956,000	123,000	10,454,000	1,040,000
1882.....	20,506,000	303,000	9,079,000	1,236,000
1881.....	21,739,000	449,000	8,196,000	1,235,000
1880.....	17,936,000	394,000	7,531,000	1,143,000
1879.....	14,993,000	239,000	7,246,000	1,663,000
1878.....	10,017,000	189,000	7,331,000	1,560,000
1877.....	8,246,000	170,000	7,085,000	1,406,000
1876.....	6,040,000	632,000	8,304,000	1,386,000

The exports of manufactured goods, it will be seen, have not expanded either so rapidly or so continuously as those of yarns. Indeed, 1884-85 shows a very heavy decrease in that branch of the trade, which is, no doubt, to some extent attributable to excessive consignments during the previous year.

Iron Ore and Other So-called Raw Materials.

[Extracts from a Letter to the Secretary of the Treasury by Hon. George H. Ely, of Cleveland, Ohio.]

It has been stated that foreign ores aid in utilizing American ores by mixing. The fact, however, is the reverse of this. Instead of foreign importations increasing the use of American ores, they displace them; and this is true not only of the Bessemer ores, but of those in use for ordinary grades of pig iron. It would seem as if the assumption were revived now to give plausibility to a theory of "free raw materials." It is assumed that, if raw materials were on the free list, our manufacturers, in different lines, could produce at lower cost, and cheaper production would, of course, open to us wider markets. The advocates of this doctrine do not openly and directly propose to bring about lower cost of production by the only means by which it can really be attained—lower wages for labor. But they aim at the same result, in this indirect way, by substituting the products of foreign labor at starvation wages for the products of the American workingman, and so depriving him of work altogether in those industries affected. The appeal is made, primarily, to those individuals and corporations whose business relates to the conversion of the lowest forms of crude materials into the next highest form. If the opening can be made here; if the makers of pig iron, bar iron, and steel rails, and of woolen goods, and scores of other producers, at the base of each of whose industries is a material more crude in form than its finished product, can

ing the growth of the cotton trade in India during the past ten years. The statistics are furnished the Economist by an Indian correspondent, as a result of the investigations of the royal commission on trade depression:

PROGRESS OF INDIAN MILLS DURING THE PAST TEN YEARS.

Years ending June 30.	No. of mills.	No. of spindles.	No. of looms.	No. of hands employed.	* Approximate amt of cotton consumed.
1885.....	87	2,145,646	16,537	67,186	396,749
1884.....	79	2,001,467	16,263	60,387	531,365
1883.....	67	1,790,388	15,373	53,476	456,556
1882.....	65	1,620,814	14,172	48,467	397,562
1881.....	57	1,513,090	13,707	46,430	376,989
1880.....	56	1,461,590	13,502	44,410	367,631
1879.....	56	1,452,794	13,018	42,914	367,585
1878.....	53	1,289,706	10,533	Not stated	Not stated
1877.....	51	1,244,806	10,385	Not stated	Not stated
1876.....	47	1,100,312	9,130	Not stated	Not stated

*Bales 392 lbs.
†The returns of the first three years are from official sources; the subsequent ones have been compiled partly from official and partly from private information.

During the ten years the number of mills, spindles and looms has nearly doubled, and the increase in the productive power of the mills has been still greater, the consumption of cotton having risen from 936,547 cwt. in 1878-9 to 2,088,621 cwt. in 1884-5. It may be doubted whether this progress has been altogether healthy. Certainly at present production seems to have outstripped consumption, and the majority of the mills are working, if not at a loss, at all events at the narrowest margin of profit. But no industry ever advances with steps carefully and accu-

be brought to respond to this seductive but specious appeal and thus break down the main defenses of our home industries, then the enemies of our American system have won their case. The remaining semblance of protection need be no longer preserved. Virtual free trade would then have been reached, and its corollary would follow—direct taxation for the support of the Government.

We have, of course, industries whose crude materials must all be imported, which can not be or are not advantageously produced in our own country. Such materials do not compete with home labor, and they are, as they should be, on the free list. Duties upon foreign materials that do compete are quite another thing. In support of this movement for "free raw materials" iron ore and wool are especially singled out. A beginning must be made somewhere; the theory assumes that raw materials are not the products of capital and labor. But is there any such thing as raw material? Are not all our industries interlocked and interdependent?—the finished product of one being the raw material of another. Where is the line to be drawn? Is the labor that puts the final touch upon the locomotive, or which watches the flying shuttle of the loom, to be protected, and that which lifted the ore into the light, or which raised the wool on the farm, to have no protection, but, on the contrary, to be subjected to destructive competition with the lowest wages upon which human beings can subsist?

But, as I have intimated, the advocates of this doctrine insist upon its application far beyond prime production. Imported at whatever stage of manufacture the foreign product may be, if not in condition for actual use by the consumer, it must be classified as raw material. American labor may be permitted to give it only the final touch; nineteen-twentieths of the labor may have been put upon the article abroad; still, it is raw material of American industry and under the theory should bear a low rate of duty.

It has been said that iron ore is "simply an earth," having no labor upon it except that of digging it out. But every intelligent man must know that large outlays of capital are necessary before the laborer can begin to dig out the ore, and that every step in his process of digging involves an additional expenditure. Shafts must be sunk and costly hoisting machinery provided before mining on an extensive scale can begin; and, once begun, every foot traversed requires expensive timbering for the support of the mine roof. This also must be constantly kept in repair and renewed. In addition to all this there is the cost of powerful explosives and pumping machinery.

New Snap Hook.

The illustration represents a new Snap Hook which will recommend itself to all who use such an article. It is easily opened



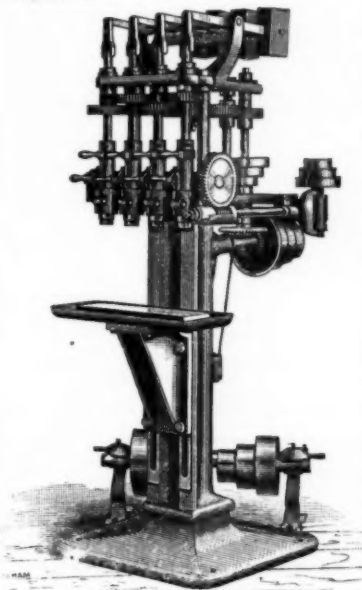
SNAP HOOK.

by placing the fingers as shown in the cut, and when released closes itself, so that a horse cannot get away from it, as the sleeve

slides over the point of the loop and the ring or staple cannot be released without drawing the sleeve back beyond the stay or crossbar shown in centre of the hook. This snap is manufactured by F. Armstrong, Bridgeport, Conn.

New Drill Press.

E. E. Garvin & Co., 143 Centre street, New York, are making something new in the Drill Press line which we here illustrate. The four spindles, driven with gearing, have each an independent automatic feed and adjustable trip. The spindles are counterbalanced by levers shown at top of machine, so that when the feed pinion is out of clutch the spindle can be raised or lowered by the direct movement of the handle fastened to the shell which forms the lever bearing of the spindle.



DRILL PRESS.

The trip mechanism is a wedge adjustable in a slot in the shell coming in contact with a projection upon the clutch lever shown in cut. It forces the pinion out of contact with a clutch piece fastened to feed shaft, leaving the spindle free.

The table is vertically adjustable upon the face of column by the loosening of four bolts. The table has oil groove communicating with an oil pump at the back of columns.

This machine, with its counter-shaft, weighs 1,200 pounds.

South Carolina in 1886.

The Charleston *News and Courier*, in its issue of January 1, presents an able and elaborate review of the recent progress of the State, showing the increase in the value of property, the growth of manufactures and railroad building, the immense value of the State's agricultural productions, etc. We take from it the following extracts:

THE WEALTH OF THE STATE.

In 1880 the assessed value of real and personal property in South Carolina was \$133,560,135, and in 1885 \$158,703,000, an increase in the five years of \$25,142,865. The public debt has been decreased \$544,113 and the taxes \$56,462. In 1880 the assessed value of property to each person in the State was \$135, and in 1885 \$138. The public debt in 1880 was \$13 to each person, and in 1885 \$11 per capita.

A comparison between 1880 and 1885 of the value of the productions of agriculture and manufactures and the value of live stock and agricultural implements shows not only a gratifying increase in the total values, but some important changes in the relative values of each.

	1880.	
Live stock.....	\$12,279,412	
Agricultural machinery.....	3,005,710	
Agricultural productions.....	41,969,749	
Manufactured products.....	16,738,008	
Total	\$74,189,879	

	1885.	
Live stock.....	\$21,297,762	
Agricultural machinery.....	4,608,688	
Agricultural productions.....	50,598,970	
Manufactured products.....	39,403,257	

Total.....\$114,908,677
Increase in the five years, \$40,718,798.

But the most interesting part of this comparison is found in the proportionate values. These were as follows:

	Per cent.	1880.	1885.
Live stock.....	16.56	18.53	
Agricultural machinery.....	4.33	4.01	
Agricultural productions.....	56.56	44.04	
Manufactured products.....	22.55	33.42	

Totals.....100 100
The most remarkable feature in the industrial development of the State is shown by the increased value of manufactured products.

All of the statements concerning manufactures in 1885 are taken from *The News and Courier* compilation in 1884, and the BALTIMORE MANUFACTURERS' RECORD reports of new industries inaugurated since that time. The value of the annual product was stated by *The News and Courier* in 1884 and is estimated on the capital invested since, as reported by the MANUFACTURERS' RECORD.

The deposits in the national banks in South Carolina on September 1, 1884, were \$2,619,149, and in the state banks, \$2,772,460; total \$5,391,609. On the first of September, 1885, the deposits in the national banks were \$2,723,042, and in the State banks, \$3,579,653; total \$6,302,695—an increase of \$911,086, and the loans and discounts by both State and national banks were, in 1884, \$6,261,472, and in 1885, \$6,465,493, an increase of \$204,021. The commercial capital of the State, or rather the wealth of the store-keepers in South Carolina, in 1880, was estimated at \$40,156,000. If the increased deposits indicate increased commercial capital, it would now amount to \$46,982,000, an increase of \$6,826,000 in the five years. The annual sales have likewise increased from \$150,000,000 to \$175,000,000.

MANUFACTURING INDUSTRIES.

With the cheapest water-power in the Union, exemption from taxation for ten years, the raw material on the ground, cheap labor and favorable climatic conditions, it is not surprising that the cotton manufacturing interest should have shown a satisfactory increase in the past ten years. This much was expected, but when the other manufactures have increased about as rapidly as cotton factories, it is a matter of some surprise.

"In 1880 South Carolina was represented in fifty-three out of fifty-seven manufacturing occupations mentioned in the Compendium and has, over and above this, 7 per cent. of her workers employed in other lesser and miscellaneous pursuits of this character not mentioned. Rhode Island, Massachusetts and Connecticut are represented in all of the fifty-seven leading manufacturing industries, but in the first named only 6 per cent., and in the latter 9 per cent. of their artisans are engaged in the smaller and miscellaneous pursuits. So that, as far as the mere number of industrial pursuits of this character is concerned, South Carolina would seem to have very nearly as many as these States, noted for the great diversity of their manufactures." (Hand Book of South Carolina.)

In 1880 there were in the State 2,078 manufacturing establishments, having a capital of \$11,205,894, employing 22,128 hands, and the value of the products of these establishments was \$16,738,008. On the 1st of January, 1884, the *News and Courier* presented a carefully compiled and elaborate review of the industries of South Carolina, and it was there shown that the number had reached, including phosphate mining, 3,159, classified as follows: Cotton mills, 29; fertilizers, 11; all other manufactures, including flour and grist mills, foundries, lumber mills, phosphate mines, &c., 3,119. The capital invested in these enterprises was \$20,074,510, and the value of the products was \$32,324,404, over 48 per cent. increase between 1880 and 1884 in the value of products.

At the present time the number of establishments (including phosphate mines) in

the State is 3,256, having a capital of \$23,367,510, and the value of their products is estimated at \$38,403,257, an increase in the past two years of \$6,078,853.

The manufacturing industries of the State may be briefly stated as follows:

	Value of Product.
Cotton mills.....	30 \$9,014,598
Lumber mills.....	729 5,810,305
Turpentine mills.....	291 2,888,271
Flour and grist mills.....	1,617 5,377,948
Foundries.....	51 1,048,601
Other manufactures.....	53 14,269,540
Totals.....	3,256 \$38,403,257

Included under the head of other manufactures are fertilizer factories, oil mills, phosphate mining and quarrying, paper mills, chair factories, ice factories, brick and tile and the smaller industries.

THE COTTON MILLS.

The most important of the manufacturing interests are the cotton mills. It is an exceedingly difficult matter to furnish a correct estimate of the present condition of these factories, owing to the general depression which has prevailed here, as elsewhere. But, while some of the mills may have lessened their production, others have enlarged their operations, so that it will be safe to use the figures given by the *News and Courier* for the present estimate. Within the past two years two new mills, then projected, have been completed, namely: The Darlington and the Newberry cotton factories.

The following have added to their machinery, thus increasing their capacity: The Charleston Manufacturing Company, the Reedy River Factory in Greenville, Mr. George H. Cornelson's Mill in Orangeburg, the Clifton and Pacolet Mills in Spartanburg, and the Sumter Cotton Mills at Sumter. The Camperdown Mills have changed hands and have been enlarged. The Red Bank Mill in Lexington has been recently sold, and the company taking charge is adding new and improved machinery. The Saluda Mills were burned.

In 1884 there were 29 mills in operation, using a capital of \$4,795,900, consuming annually 76,486 bales of cotton, and producing 16,190,125 pounds of yarn and 64,263,500 yards of cloth, valued at \$7,963,198. The following table gives similar information of the present condition, the only changes from the statement of 1884 being the addition of the mills completed since that date, and a deduction for the loss of the Saluda Mills. The enlargement of the various mills is not considered, as the increased production is possibly counterbalanced by the loss consequent upon the general depression in manufacturing interests and the decline in prices. The value of the annual product of these mills exceeds the product of 1884 by \$1,051,400.

Counties.	Cotton Consumed, 100 lb. Bales.	Annual Product.		Value of Annual Product.
		Pounds of Yarn.	Yards of Cloth.	
Aiken.....	18,668	83,650,000	32,010,000	
Anderson....	5,322	265,200	3,840,000	345,000
Charleston....	6,000	1,500,000	8,000,000	820,000
Chester.....	940	418,700		64,398
Darlington...	6,300	1,573,000	8,460,000	840,000
Greenville....	20,286	8,417,000	12,500,000	2,420,000
Lexington....	580	338,000		41,400
Newberry....	3,800	1,350,000	5,000,000	350,000
Orangeburg...	2,530	1,100,000		185,000
Spartanburg...	16,820	1,869,825	16,873,500	1,670,000
Sumpter.....	770	335,000		88,800
York.....	2,500	1,112,000		180,000
Total.....	83,976	18,272,125	77,723,500	\$9,014,598

These mills have an aggregate capital of \$5,575,600. The Fairmount Mills, in Barnwell county, have been completed, but owing to the failure of one of the largest stockholders the property is now in litigation and is not running. The capital stock of the company is \$100,000, and the machinery was constructed for the annual production of 400,000 pounds of yarn and 1,500,000 yards of cloth.

OTHER MANUFACTURING INDUSTRIES.

Since 1884 twelve new lumber mills have been built, making the total number at present 729, and the value of their annual product is estimated at \$5,810,305, an increase of \$95,640, and the value of the

annual product of these mills and turpentine stills is now \$8,698,576, making this industry second in importance in the State. In 1884 there were eleven fertilizer factories, and the value of their product was estimated at \$3,346,400; since then there have been four other factories established, making the total fifteen. Two of these are operated in connection with cotton-seed oil mills, and the value of their annual product is consequently smaller than in those factories manufacturing fertilizers exclusively. The total value of the product of all of these factories is estimated at \$3,500,000.

The South Carolina companies now manufacture about one-third of all the commercial fertilizers used in the Southern States, and their products go to more than one-half of the States of the Union using commercial manures.

The manufacture of cotton-seed oil and meal is comparatively a new industry in the State, as the seven mills now in operation have all been erected since 1880. They have a capital of \$299,700, and the value of their product is estimated at \$400,000. Among the other enterprises recently inaugurated deserving special mention is the china factory at Aiken, which is converting the kaolin found in that county in such purity and abundance, into crockeryware of the best and most durable quality. The proprietors of this establishment have invested about \$20,000, and will enlarge their capital as their business develops. They have every reason to expect satisfactory results from their investment.

The McCormick Manganese Mining Company, operating at the old Dorn gold mine in Abbeville county, is exporting large quantities of manganese to Europe. The success attending mining operations at the Haile gold mine in Lancaster county has warranted the purchase of about \$75,000 of new machinery. The Bent-wood factory, at Columbia, was organized with a capital of \$35,000 and began work last September. The demand for its goods has exceeded the product, and the enterprise, the only one of its kind in the South, promises to fully justify the expectations of its projectors.

Although the market for phosphate rock was dull during the year, the production of rock was considerably increased. The amount of rock removed probably exceeded 400,000 tons, as the production of river rock alone reached 176,000 tons. It is estimated that this industry, in connection with the manufacture of the rock into commercial fertilizers, has brought into South Carolina over \$50,000,000.

The canning establishment in Kershaw, the manufacture of cotton gins in Charleston, rustic woodwork in Oconee, tobacco factory in Spartanburg, the opening of the granite quarries in Fairfield, indicate the great diversity of the enterprises inaugurated in the State; and this is one of the most encouraging features of the development of the manufacturing interests.

THE GROWTH OF AGRICULTURE.

There has been a steady and satisfactory growth in the amount and value of the agricultural productions of the State in the last nine years, as the following comparison shows:

In 1877 the area in cultivation in the principal crops was 2,383,780 acres, and the value of the productions was \$28,186,080. In 1885 the area was 3,707,532 acres and the value of the productions was \$41,031,195, an increase during the period mentioned of \$12,845,115, notwithstanding the decrease in the price of these products.

While the value of the productions of all the crops in 1885, except wheat, considerably exceeds the productions of 1877, the proportionate values show some interesting changes.

The decrease in the value of the wheat crop is due to the decline in prices and to the partial failure of the crop of 1885.

In 1877 the proportionate value of the

cotton crop to total value of all crops was 58.56 per cent., and in 1885 it had increased to 60.92.

The value of the corn crop, notwithstanding the immensely increased production from 11,200,000 bushels in 1877 to 16,579,968 bushels in 1885, was 31 per cent. of the total value in 1877 and 29.09 per cent. in 1885.

The proportionate value of the wheat crop was 6.64 in 1877 and only 3.33 per cent. in 1885, while the proportionate value of the oat crop was nearly double what it was in 1877. Irish potatoes advanced from 0.25 per cent. to 1.17 per cent.

By the census returns of 1880 the value of agricultural productions in South Carolina was \$41,969,749. The value in 1885 by the estimate of the State Department of Agriculture was \$50,598,970, as follows:

Corn.....	\$11,937,576
Wheat.....	1,364,503
Oats.....	1,819,106
Potatoes, Irish.....	434,949
Potatoes, Sweet.....	1,975,569
Hay, corn, fodder and pea vines.....	4,773,069
Cotton.....	24,593,061
Rice.....	2,472,955
Peas.....	805,806
Sugarcane syrup.....	268,973
Sorghum.....	308,407

Total.....\$50,598,970

The increase in the five years amounts to \$8,629,221. The wheat and oat crops were both reduced considerably below an average yield, and but for this and the reduced prices the value of both of these crops would have been larger and more satisfactory.

The yield per acre in bushels and pounds in the different crops, as taken from the reports of the National and State Departments of Agriculture for 1880 and 1885, was as follows:

1880.		1885.	
Corn, bush.....	9	Corn, bush.....	11
Wheat.....	4	Wheat.....	6
Oats.....	14	Oats.....	9
Irish potatoes.....	79	Irish potatoes.....	114
Cotton, lbs.....	185	Cotton, lbs.....	161

It will be noticed that the yield per acre has been increased in all of the crops except oats and cotton, and the decrease reported in these two crops is due to unfavorable seasons.

The foregoing statements undoubtedly show a healthy growth in the value of the agricultural productions of the State, but whether they show agricultural improvement is a question upon which the most intelligent planters in South Carolina are divided. Increased production does not necessarily denote increased profit, for the crops may be cultivated at an expense and under a system that may absorb all the legitimate profits. In 1880 the yield of cotton per acre was 185 pounds and it was worth 11 cents per pound, the total value of the crop being \$29,336,560, and in 1885 the yield per acre was only 161 pounds, worth 9 cents per pound, the total value of the crop being \$24,995,061.

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Tan Back, " 5-4.....	32
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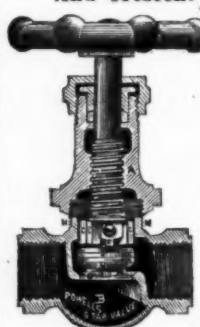
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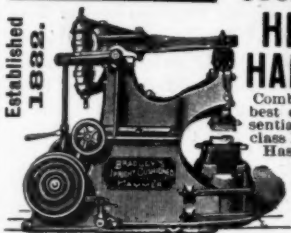
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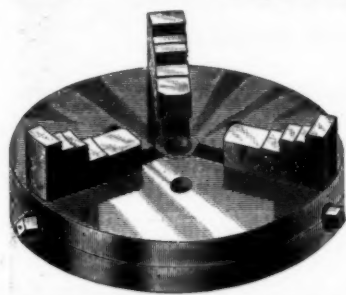
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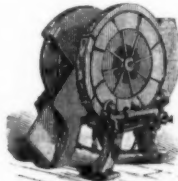
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I can say that I do not believe that there is an advertising medium in the South that could accomplish the same
result for its patrons in five insertions that THE CULTIVATOR will in one. With many thanks for your many kindnesses
to me, I am, very truly, GEO. T. BELTON, Gen. Agent Taylor & Cox Steam Fire Kettleboiler Co., Belton, S. C."THE SOUTHERN CULTIVATOR is the oldest and now the handsomest Agricultural Journal in the South. By
recent purchases it combines "The Dixie Farmer," Atlanta, Ga.; "The Plantation," Montgomery, Ala.; "The Rural Sun,"
Nashville, Tenn.; "The Southern Farmer's Monthly," Savannah, Ga., and unites the patrons of these with its own large
list of subscribers.In club: THE SOUTHERN CULTIVATOR and "The Southern World," one year, both papers, \$1.75. Sample copies
free.**STILL ANOTHER. AS AN ADVERTISING MEDIUM.**Since the receipt of the above from Thos. Meikle & Co., we are in receipt of another under date of August 3d.
"Our advertisement in THE SOUTHERN CULTIVATOR is bearing abundant fruit, and we inclose you a letter from
Kelleyville, Texas, as a sample of the many we are receiving due to THE CULTIVATOR. As the writer of the letter is
unknown to us, and his communication unsolicited, it carries the greater weight."**AS AN EDUCATOR.**Since becoming familiar with your Magazine, we are more and more struck with its merits as an educator for the
Southern planting interest and medium of communicating with the same. We know of no Agricultural Journal that
combines so much sound scientific information with so much practical good sense. THOS. MEIKLE & Co., Louisville, Ky

Sample Copies Free.

JAS. P. HARRISON, Business Manager,

Drawer 8.

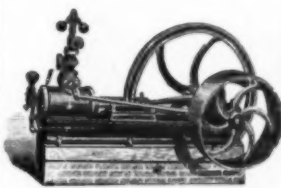
ATLANTA, GA.

Engines & Boilers

ADDRESS

GEO. W. TIFFT, SONS & CO.

Buffalo, N. Y.

5 to 500 H. P. Special stock sizes 5 to 50 H. P., both Sta-
tionary and Semi-Portable.

CORRESPONDENCE SOLICITED.

MENTION THIS PAPER.

STANDARD TOOL COMPANY

MANUFACTURERS OF

**STRAIGHT LIP INCREASE
Twist Drills**

Of Every Description.

SOCKETS, CHUCKS, SCREW
DRIVER BITS.Special Drills
to Order.

ORDERS FOR

**SPECIAL
MACHINERY and TOOLS
SOLICITED.**

Send Drawings and Specifications.

CLEVELAND, OHIO.

HOWARD IRON WORKS,

BUFFALO, N. Y.,

MANUFACTURERS OF

Schlenker's Automatic Revolving-Die**BOLT CUTTER****And Nut Tapping Machines**

In use in the principal Railroad and Machine shops in the Country.

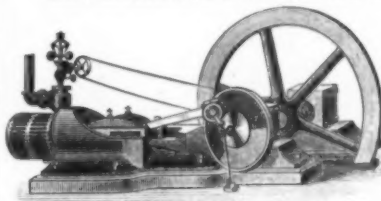
SEND FOR CIRCULAR PRICE-LISTS.

HAMILTON WORKS.

WILLIAM TOD & CO.

YOUNGSTOWN, OHIO,

SOLE BUILDERS OF THE

PORTER-HAMILTON ENGINE50 to 500 Horse-Power. Modern design. PLAIN, STRONG, EFFECTIVE, ECONOMICAL.
COSTS LESS THAN ANY OTHER FIRST-CLASS ENGINE. Send for Photograph,**BLAST FURNACE ENGINES ON HAND.**

ALSO A STOCK OF OTHER ENGINES (our make.) Prices and description on application

PARKER GAS AND GASOLINE ENGINE.

Guaranteed to Run with Less Gas than Any Other Gas Engine Known.

Always Ready
to Start.

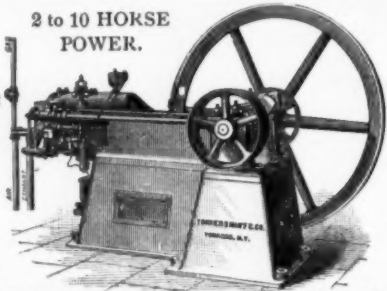
2 to 10 HORSE
POWER.

Lighted by Electric
Spark.

Simple.

Durable.

Effective.



No Boiler.

No Coal.

No Ashes to
be Removed.

No Chimney.

No Engineer.

No Smoke.

No Smell.

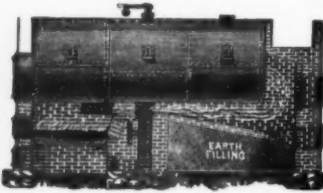
No Slide Valve to Get Out of Order. Does Not Hazard Insurance.
No Small Parts to Clog Up. Is Noiseless in Running.
Requires no Matches to Ignite the Gas. Can be Run with Any Kind of Gas.
It is the only Engine that can be run equally as well with Gasoline Gas or Carburetted Air, as with regular fixed gas. Speed can be adjusted while running from 80 to 200 revolutions per minute.

YONKERS MFG. CO. Salesroom, 16 Dey St., New York.

SEND FOR ILLUSTRATED CIRCULAR AND PRICE-LIST.

JARVIS PATENT FURNACE

FOR SETTING STEAM BOILERS.



Economy of Fuel, with increased capacity of Steam Power. Like the Siemens Process of Making Steel, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.

Jarvis Engineering Co.,

A. F. UPTON, Treas. and Gen'l Manager,
61 Oliver St., Boston, Mass.

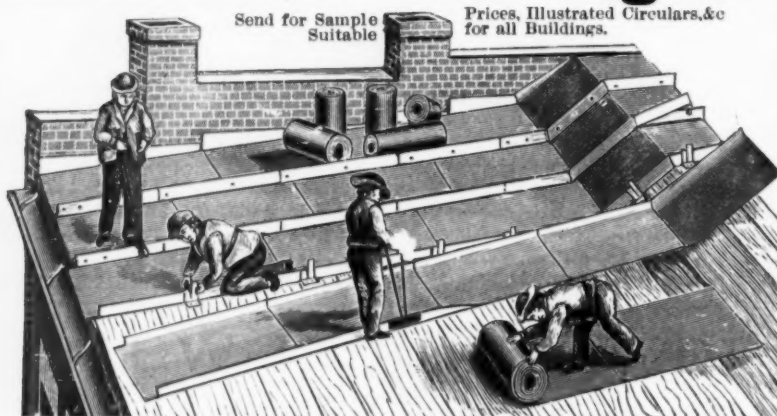
JOSHUA C. COE, Agent for Maryland and Virginia,
O'Donald's Wharf, Baltimore, Md.

SOUTHERN REFERENCES:

Eagle & Phenix Mfg. Company, Columbus, Ga.
Anniston Mfg. Co., Anniston Ala.
J. P. King Mfg. Co., Augusta, Ga.
Rose Mining Co., Charleston, S. C.
Maryland Pavement Co., Baltimore, Md.
Brush Electric Light Co., Baltimore, Md.
Ettrick, Matoca and Battersea Mfg. Co's.,
Petersburg, Va.
Rasin Fertilizing Co., Baltimore, Md.
Tanner & Delaney Engine Co., Richmond, Va.
Sibley Mills, Augusta, Ga.

Graniteville Mfg. Co., Graniteville, S. C.
Charleston Bagging Co., Charleston, S. C.
P. H. Mayo & Bros., Richmond, Va.
Phosphate Mining Co., Beaufort, S. C.
Brush Swan Electric Light Co., Norfolk, Va.
Columbus Ice & Refrigerator Co., Colum-
bus, Ga.
Lenoir Manufacturing Co., Lenoir, East
Tennessee.
Vanceuse Mill, Graniteville, S. C.

Holton Iron Roofing Co.



Send for Sample
Suitable

Prices, Illustrated Circulars, &c
for all Buildings.

New Lisbon, Ohio.

Covert

Manuf'g Company

WEST TROY, N. Y.

Manufacturers of COVERT'S Celebrated Harness Snaps, Swivel Snaps, Open Eye Bit and Chain Snaps, Snap and Thimble for Horse and Cattle Ties: ROPE GOODS, consisting of Web and Rope, Halters, Rope Horse and Cattle Ties, Web Horse Ties, Halter Leads, Driving Reins, Weight Cords, Hammock Ropes, Hitching Cords, Lariat Tethers and Picket Pins. Also, Leather Horse Ties, Etc. Breast Chains, Heel Chains, Chain Cow Ties, Halter Chains, Martingale Chains, Rein Chains, Post Chains, Butt Chains, Back or Cart Chains, Log Chains, Stake Chains, Trace Chains. Also, STUD, CABLE AND COIL CHAIN. CHAINS OF ALL KINDS. MADE FROM SAMPLE OR DRAWING.

PATENT ADJUSTABLE SOLDERING IRONS.

Send for Illustrations
and Price-List

CHATTANOOGA FOUNDRY & PIPE WORKS.

D. GILES, Prest. C. B. IBESTER, Vice-Prest. M. LLEWELLYN, Secy. GEO. E. DOWNING, Treas.

Successors to D. GILES & CO., Chattanooga, Tenn., Manufacturers of



Also Castings and Pat-
terns of Every Descrip-
tion made to order.

HOOPE & TOWNSEND,

MANUFACTURERS,

PHILADELPHIA, PA.



KEYSTONE BOILER RIVETS.

Cold-Punched Square and Hexagon Nuts.

Finished and Case-Hardened Steel Hexagon Nuts

BRIDGE RODS AND RIVETS.

BUILDERS' IRON WORK.

TANK AND COOPERS' RIVETS.

IMPROVED HOISTING ENGINES

—WITH—

WIRE-ROPE DRUMS

AND
SAFETY BRAKES.

SPECIALLY ADAPTED TO

Mining & Interests.

MANUFACTURED BY THE

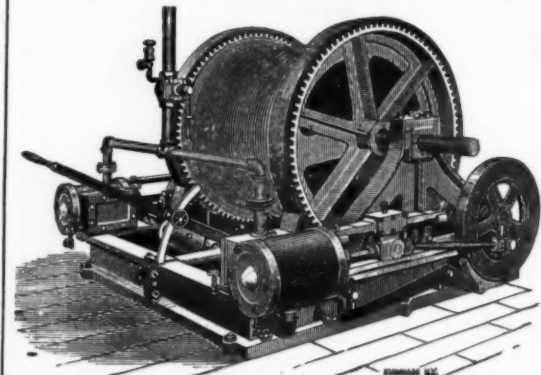
Lidgerwood Mfg. Co.

96 Liberty St., N. Y.

Hoisting Engines for all purposes.

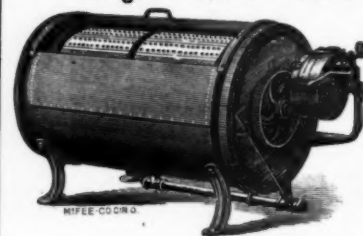
MORTON, REED & CO., Agts.

39 & 61 German St., Baltimore.



Laundry Machinery.

Largest Stock. Latest Improvements. Fullest Line.



Washing Machines,
Ironing Machines,
Centrifugal Machines,
Mangles, Wringers, etc.
BOILERS AND ENGINES.

—OUTFITS FOR—

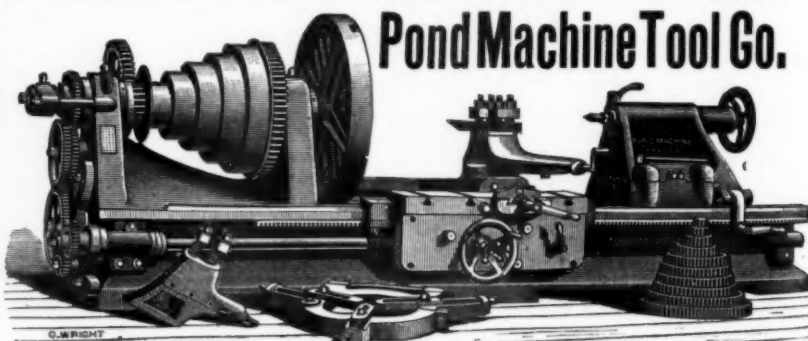
Hotels and Public Institutions

—A SPECIALTY.—

The A. M. DOLPH CO.

295 Wabash Avenue,
CHICAGO, ILL.

Cor. 9th St. and Freeman Ave.,
CINCINNATI, O.



SUCCESSORS TO DAVID W. POND.

Manufacturers of IRON-WORKING MACHINERY, Worcester, Mass.

Special Railroad Tools, Lathes, Planers, Upright and Radial Drills, Boring Mills, Gear Cutters, Milling Machines, Patent Shafting Lathes, Hand Punches and Shears, Planer Chucks. Special machinery in great variety. Estimates furnished. Send for catalogue.

Southwark Foundry & Machine Co.

430 WASHINGTON AVE., PHILADELPHIA, PA.

Porter-Allen and Southwark Engines, Blowing
Engines, Gas Apparatus, Hydraulic Machinery.

GET THE BEST.



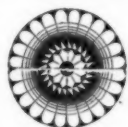
A Good Water Wheel Increases
the Value of Your
Whole Plant.

GET THE BEST AT FIRST AND AVOID THE
EXPENSE AND DELAY OF CHANGING
THE WHEELS.

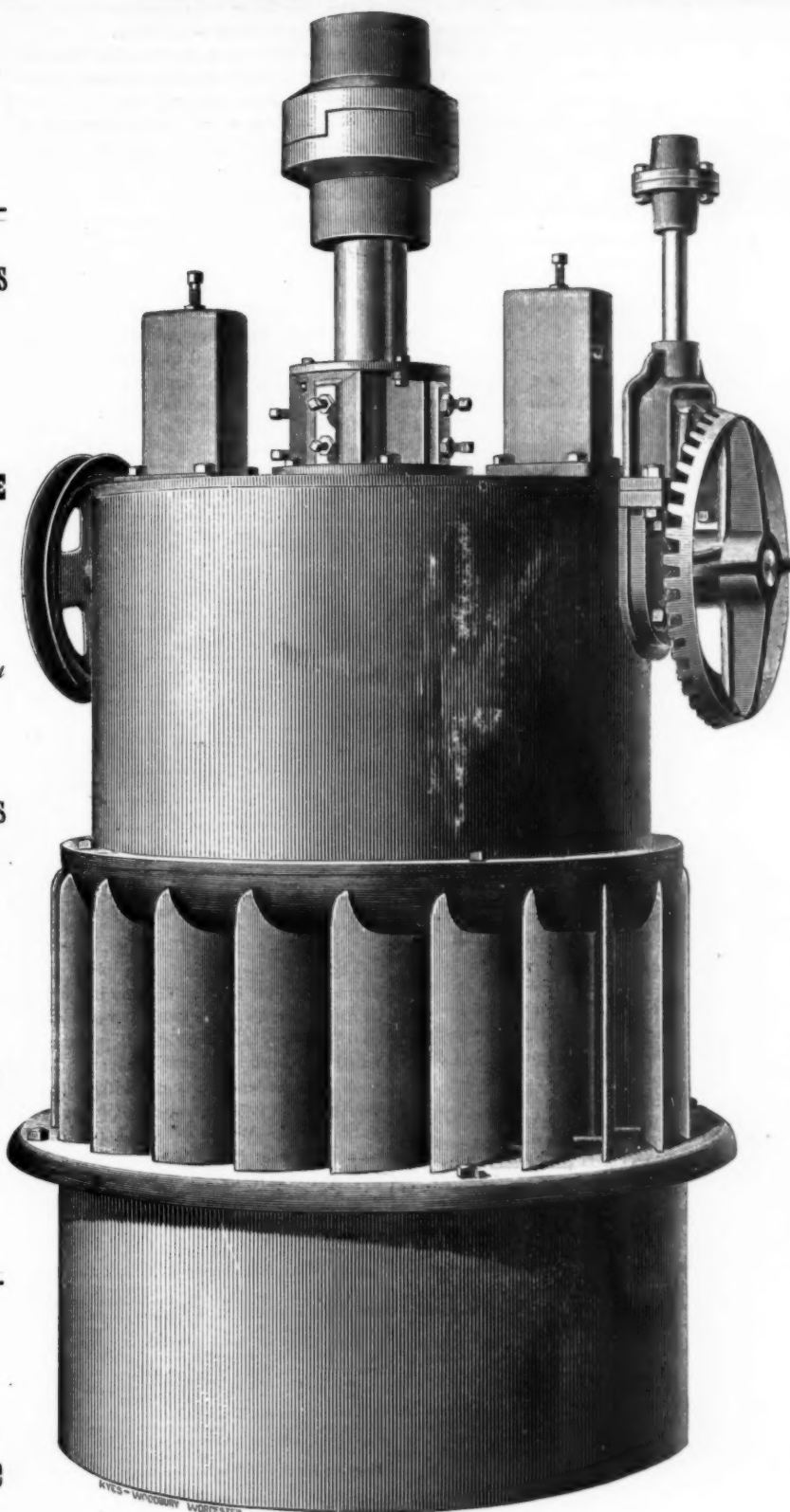
A Good Wheel Will Serve You
Well for Twenty Years.

THE BEST IS THE CHEAPEST. IT DOES
MORE WORK, LASTS LONGER, AND
COSTS NO MORE FOR GEARS
AND SETTING THAN A
COMMON WHEEL.

The Hercules Gives the Most Power for its Size
and the Highest Average Percentage
from Full to One-Half Gate of
any Wheel Ever Made.



Below we give the Names of the



When it is considered that
the HOLYOKE WATER
POWER COMPANY test
every wheel that is put in in
Holyoke, and use the wheels
as a gauge or meter for mea-
suring the water to the
manufacturers and charge
them for the actual quantity
of water used, it will be seen
that the HERCULES stands
first in the estimation of
Holyoke manufacturers as an
economical wheel in the use
of water for the amount of
power produced. The HER-
CULES, we believe, is the
only wheel of which all the
sizes, both right and left hand,
have been tested, some of
them many times, and all
brought to the standard of
excellence which has been
set by the makers and de-
manded by their customers.



Mills in Holyoke, Mass., using

THE HERCULES WATER WHEELS

THE HEAD OF WATER ON THE WHEELS AND THE POWER FURNISHED BY THE HOLYOKE WATER POWER CO.:

	Diam. in inches.	Head on Wheels.	Horse Power.	Date of Setting.		Diam. in inches.	Head on Wheels.	Horse Power.	Date of Setting.		Diam. in inches.	Head on Wheels.	Horse Power.	Date of Setting.
Albion Paper Company.....	39	25	265	1878	Geo. R. Dickinson Paper Company...	36	19	170	1883	The Massasoit Paper Company.....	39	19	197	1883
Albion Paper Company.....	24	25	115	1883	Holyoke Water Power Company.....	30	19	115	1882	Union Paper Company.....	45	20	285	1882
Albion Paper Company.....	45	27	445	1880	Holyoke Warp Company.....	48	11	130	1879	Union Paper Company.....	30	20	185	1882
Albion Paper Company.....	30	27	200	1883	Massachusetts Screw Company.....	27	19	90	1882	Valley Paper Company.....	42	27	390	1882
Chemical Paper Company.....	4-30	23	690	1880	Merrick Thread Company.....	48	12	159	1880	Wauregan Paper Company.....	42	18	210	1879
Chemical Paper Company.....	5-18	23	275	1880	Newton Paper Company.....	48	21	350	1880	Wauregan Paper Company.....	33	18	130	1882
Chemical Paper Company.....	33	23	185	1880	Nonotuck Paper Company.....	48	20	570	1881	Whiting Paper Company.....	27	18	85	1882
Chemical Paper Company.....	42	23	305	1880	Nonotuck Paper Company.....	27	29	175	1881	Whiting Paper Company.....	18	15	30	1880
Chemical Paper Company.....	2-48	23	800	1880	Riverside Paper Company.....	48	20	325	1880	Winona Paper Company.....	48	28	540	1880
Connecticut River Pulp Company.....	36	18	155	1881	Syms & Dudley Paper Company.....	45	20	495	1881	Winona Paper Company.....	24	28	135	1880
Crocker Paper Company.....	39	25	300	1883	Syms & Dudley Paper Company.....	34	20	140	1881					
Farr Alpaca Company.....	48	19	300	1878	Springfield Blanket Company.....	36	18	155	1877					
Franklin Paper Company.....	39	20	215	1883	The Beebe & Holbrook Paper Co....	24	19	75	1884					
Geo. R. Dickinson Paper Company.....	2-45	19	520	1883										

Increase since..... 9,797
Total 10,576

Send for
Catalogue
No. 3.

HOLYOKE MACHINE COMPANY, Worcester, Mass.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, Jan. 5, 1886.

[illegible]

HARDWARE.

The market on all lines of goods is steady, and from present indications, there will be more general advances. The manufacturers of table cutlery hold a meeting to-day, and a stiffening in prices may be expected.

Philadelphia Iron Market.

favorable conditions which are apparent all around. A greater consumption will, of course, stimulate production. If possible, all speculative tendencies will be checked. The makers of manufactured iron all look for and want better prices. Bar iron has been advanced slightly, and a further advance is looked for soon. The nailmakers are hopeful of a fair spring trade. There are no new developments from the West. Fewer nails are going from the East there, as the mills now running in that section are able to supply all requirements. The demand is quiet, but prices are still held at \$2.50. Steel railmakers have several months' business ahead, and are receiving orders and inquiries daily, but they are not anxious for business just at present. No further advance is probable, as the makers do not want to take undue advantage of the market. The makers would be able to hold an advance if it was made. Supplies of old rails are still not to be had, and offers are made at \$20 to \$21.50. Skelp is quoted at \$1.80 to \$1.85. Wrought pipe remains unchanged. Wrought turnings are quoted at \$12.50 to \$13, machinery scrap \$13 to \$14, No. 1 \$16 to \$17, selected \$18 to \$18.50.

HOT-BLAST FOUNDRY.			
Ohio and Southern Strong Coke	No. 1.	18	00@18 50
" " " "	No. 2.	17	00@17 50
" " " "	No. 3.	16	00@16 50
Ohio Soft Stonecoal,	No. 1.	19	00@19 50
" " " "	No. 2.	18	00@19 00
Mahoning and Shenango Valley Coke,	No. 1.		19 50@20 00

CHARCOAL IRON.			
Hanging Rock,	No. 1.....	\$21	00 \$21 00
	No. 2.....	20	00 \$21 00
Tennessee and Alabama,	No. 1.....	19	00 \$19 50
	No. 2.....	18	00 \$18 50
FORGE.			
Strong Neutral Coke.....		\$15	50 \$16 00
Mottled " ".....		14	50 \$15 00
Cold Short.....		14	50 \$15 00

CAR WHEEL AND MALLEABLE.			
Southern Car-Wheel Iron.....	22	00@24	00
Hanging Rock C. B.....	28	00@30	00
" " W. B.....	22	00@24	00
Lake Superior Malleable.....	24	00@25	00

Trade has been a little quiet during the past week on account of the holiday season. Prices remain firm. We quote as prices current cash on cars or wharf here:

	FOUNDRY.	Cash.
Hanging Rock Charcoal, No. 1.....	\$18 50	19 50
" " " " 2.....	17 50	18 50
Southern Charcoal " 1.....	17 50	18 50
" " " " 2.....	16 50	17 50
Strong Neutral Coke, " 1.....	17 50	18 50
" " " " 2.....	17 00	18 00
American Scotch, " 1.....	17 50	18 50

GREY FORGE.	
Neutral Coke.....	15 30@16 00
Cold Short.....	15 00@16 00

CAR WHEEL AND MALLEABLE.		
Hanging Rock, strictly cold blast.....	25	00@26 00
Hanging Rock, strictly warm blast.....	21	00@21 50
"Cranberry," N. Carolina Warm Blast.....	22	25@22 75
Amherst and Virginia Warm Blast.....	30	50@22 00
Lake Superior Charcoal, all grades.....	20	00@22 00

Bar Iron.—The mills will be busy this month on contracts taken in December and

Bar Iron.....	1	80	@ 1 90
Cr. Steel.....	10	10	@ 12
Pl. Steel slabs.....	10	10	@ 12
No. 10 Sheet.....	2	50	@ 2 50
No. 12 Sheet.....	3	10	@ 3 20
Galvanized sheet, best.....	50	50	@ 55¢
Galvanized Iowa barb wire.....	4	75	@ 0
Burden Shoes.....	4	75	@ 10
Juniata Shoes.....	4	75	@ 10
Carriage Bolts.....	3	70	@ 1 75
Steel nails.....	2	70	@ 1 80
Iron Nails.....	2	60	@ 2 70
Rope, Sisal.....	8	8	@ 8 75
Rope, Manila.....	12½	@	14
Screws, American Screw Co's list.....	75	@	80¢
Axes.....	6	50	@ 6 75
Cross cut saws, wide, per foot.....	26	@	38cts.
Cross cut saws, narrow, per foot.....	21	@	32cts.

With concessions to large or wholesale buyers.

The sales of pig iron have been small during the past week. The market is just as firm as ever, and we know of no iron that could be bought except at full prices. As noted last week, the coke furnaces will not book large orders, and some will not book even car-load lots, on account of being sold so far ahead. We do not think prices will be advanced, at least for some time, unless buyers force it by large purchases. Car-wheel irons have been advanced, and we revise quotations accordingly. We quote as follows for cash:

	PIG IRON.	
Southern Coke, No. 1 Foundry.....	\$18 00@18 50	
" " " " "	17 00@17 50	
" " " " " 3½"	16 50@17 00	
Hanging Rock Coke, No. 1 Foundry....	18 00@18 50	
" " " " Charcl."	19 00@20 00	
Southern Charcoal, No. 1 Foundry....	18 00@20 00	
Silver Gray, different grades.....	16 50@17 17	
Southern Coke, No. 1 Mill, Neutral....	16 00@16 50	
" " " " "	15 00@15 50	
" " " " Cold Short..	15 00@16 00	
Southern Charcoal, No. 1 Mill.....	16 50@17 17	
White and Mottled, different grades....	13 00@13 50	
Southern Car Wheel, standard brands... 23	00@24 00	
" " " other brands.....	17 00@21 00	
Hanging Rock Cold Blast.....	14 00@25 00	
" " Warm	18 00@21 00	

Trade is somewhat quiet, with less inquiry. A large contract was let here the past week, to run through the year 1886, at a less figure than the contract price of 1885. The general foundry trade shows no improvement. We quote:

HOT-BLAST CHARCOAL.			
Missouri.....	\$16	50¢	18 00
Southern.....	18	50¢	19 50
Ohio.....	—	—	—
COKE AND COAL.			
Missouri.....	16	50¢	18 00
Southern.....	17	50¢	18 50
American Scotch.....	30	00¢	21 00

MILL IRONS.		
Missouri.....	16 00@	17 00
Southern.....	16 00@	16 50

CAR-WHEEL AND MALLEABLE IRON.		
Southern.....	20	00@24 00
Lake Superior.....	21	00@23 00

MISCELLANEOUS.	
Old Rails.....	21 00@21 50
Old Wheels.....	16 00@17 00
Connellsville Coke, East St. Louis.....	5 30@—
Iron, nar.	

Business for the past week has been quiet ; in fact, more so than usual. This condition of trade can, of course, be accounted for, it being the close of the year, at which time all business houses are balancing up their books and taking account of stocks. There are some expressions of uncertainty as to the future, but they mostly emanate from bilious temperaments, and can have but little or no effect on the strong and steady advance of general business. Pig iron is firm, and

Atkinson, Mary C., Baltimore, Md. Milk-skimmer.....333,098

Baumgartner, G. W., New Orleans, La. Rotary egg-preserver.....333,100

Belding, W. R., Mountain View, Ark. Fire-place grate.....333,382

Bibb, W. C., Atlanta, Ga. Machine for crushing ores, phosphates, &c.....333,383

Bremaker, Chas., Louisville, Ky., and M. Zier, Sr., New Albany, Ind. Paper-pulp digester.....333,105

Camp, D. C., and H. P., Gainesville, Ga. Churn-motor.....333,388

Cass, W. M., Carlock, Tenn. Car-brake and starter.....333,107

Covington, P. A., Fort Worth, Texas. Coffee-pot.....333,382

Cutter, M. A., Galveston, Texas. Street-car.....333,450

Doriot, Victor, Bristol, Tenn. Brick-machine.....333,388

Durham, J. W., and W. B. Alexander, Decatur, Texas. Bedstead-brace.....333,453

Erlanger, Chas., Baltimore, Md. Button-faster.....333,400

Fisher, T. J., Carthage, Tenn. Book-case.....333,210

Ford, J. S., Owensborough, Ky. Elevating and carrying apparatus.....333,456

Hinton, J. R. H., Baltimore, Md. Store-service apparatus.....333,392

Hunter, R. G., Palatka, Fla. Pocket-knife.....333,466

Linders, Joseph, Winfield, W. Va. Coffee-pot stand.....333,315

Obenchain, W. A., Bowling Green, Ky. Dip-net.....333,326

Powell, David, Flemington, W. Va. Car-coupling.....333,754

Purefoy, A. F., Wake Forest, N. C. Spring bed-bottom.....333,252

Savage, J. Y., and A., Scotland Neck, N. C. Combined fertilizer-distributor and stalk-breaker.....333,164

Stewart, R. H., Baltimore, Md. Milk-skimmer.....333,484

Taylor, L. L., Seaboard, N. C. Cotton or hay press.....333,359

Underwood, J. B., Fayetteville, N. C. Chromatic printing machine.....333,490

Whitmore, J. W., Richmond, Va. Hinge.....333,375

REFERENCES:
 Branch, Crookes & Co.,
 Liggett & Myers Tobacco Co.,
 Excelsior Manufacturing Co., } St. Louis.

—Patent Causes.—

Three years' experience in examining corps. Eight years' practice. Moderate fees. Personal attention. Excellent facilities for obtaining foreign patents. *All business before Patent Office hastened and aided by nearness to it.* Opinions; searches; suits in court; interferences. Write (Box 220) for references, fees, information.

the furnaces have no difficulty in booking orders at present rates. We quote:

No. 1 Foundry.....	\$15 50	\$16 50
No. 2 Foundry.....	14 50	16 00
American Scotch.....	14 50	15 50
Gray Forge.....	13 00	14 00
Car-Wheel Iron.....	13 00	14 00
Ores, Red and Brown.....	1 50	2 00
Furnace Coke.....	1 00	2 30
Nails, car-load lots, 30 days.....	—	—
Bar Iron, per 100 lb.....	—	1 65
Old Rails.....	—	18 50
Old Wheels.....	—	14 50
Wrought Scrap, No. 1.....	—	60
" " No. 2.....	—	50
Cotton Tie Clippings.....	—	—
Cast Scrap.....	—	—
Railroad Splices.....	—	1 75
Railroad Spikes.....	—	2 00
Light Steel Rails, long ton.....	—	—
Barb wire—Cambric link.....	—	—
Barb wire—four point galvanized.....	—	—
Barb wire.....	—	—

TRADE NOTES.

"HOWARD, BULLOUGH & RILEY, of Boston, have received the order for the whole of the drawing, slubbing, intermediate, roving and fine jack frames for the new mill to be built in the Fall River by the Globe Yarn Mill Company. In all there are 13 heads of drawing and 30 frames or 43 machines. The drawing and intermediate frames will have the Howard & Bullough Patent Electric Stop Motion for preventing "Single," which is gaining ground very rapidly amongst Eastern mills.

We may here mention that the firm of Howard & Bullough & Riley has been dissolved and the business will be continued from January 1st, 1886, by Mr. C. E. Riley, of the late firm, and Mr. W. B. Gray, who have formed a partnership under the firm name of Riley & Gray. They will be the sole importers of the cotton machinery built by Howard & Bullough, for which there is a steadily increasing demand in this country. They will keep a stock of spare parts and change wheels, which will be of great convenience to their clients. They also have a staff of experienced mechanics for the works for the purpose of properly erecting their machinery.

They will still continue the importation of woolen and worsted machinery, card clothing, etc., as carried on by the retiring firm.

THE John W. Ealy Company have issued the 16th volume of Ealy's "Blue Book," a description of which will be found in our advertising columns. In ten years, from a little volume hardly larger than the ordinary pocket edition, and containing but 18,000 names, it has grown to its present proportions, and to-day they present to their subscribers the names and ratings of almost 300,000 merchants and manufacturers of the United States and Canada in the special department of trade they represent. It is hardly necessary to say that such a result can have been reached only by the expenditure of an enormous amount of labor, time and money. The publishers say that to bring the "Blue Book" to its present state of efficiency has required the active co-operation of over 40,000 special correspondents.

A Lilliputian Wonder.

The Rochester Machine Tool Company, limited, of Rochester, N. Y., have recently invented and perfected a small automatic engine, with boiler, feed pump, etc., etc., complete, using coal oil vapor, fed automatically, for fuel. Though only 1 horse-power, at a recent trial in Rochester, it propelled a 40-foot launch, loaded, at the rate of 8 miles per hour. The engine is small, compact, and a perfect little gem.

It can be used for electric lighting, where small power is required, or for nearly any other duty. Descriptive circular and cuts will shortly be issued.

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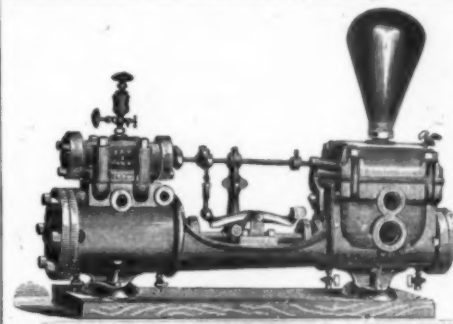
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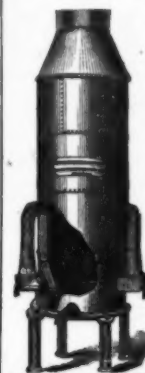
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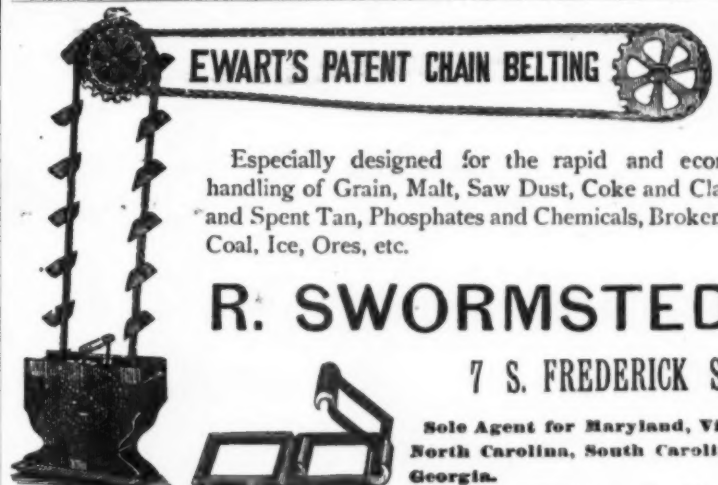
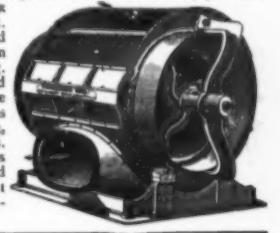
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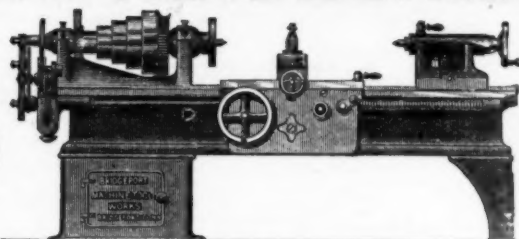
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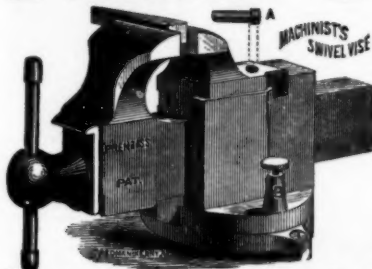
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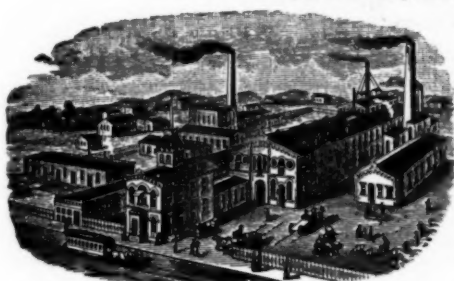
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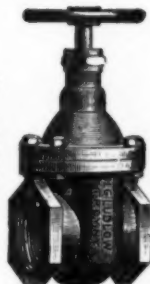
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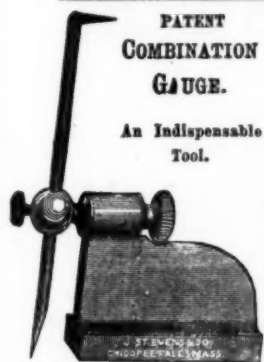
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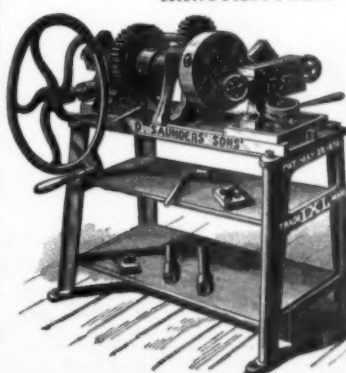
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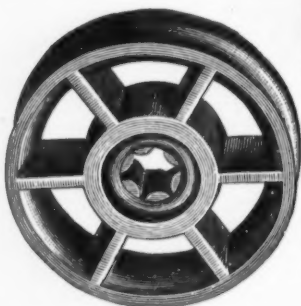
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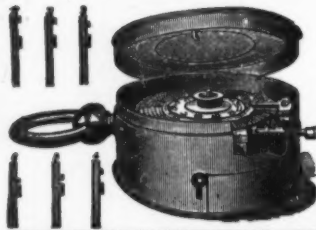


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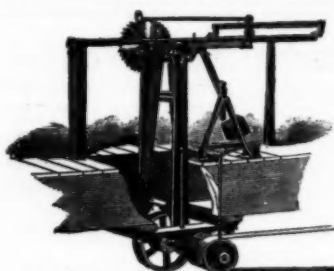
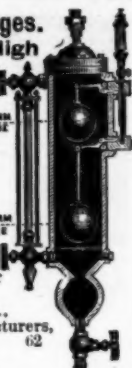
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No. 103, 132 1/2; No. 104, 134 1/2; No. 105, 136 1/2; No. 106, 138 1/2; No. 107, 140 1/2; No. 108, 142 1/2; No. 109, 144 1/2; No. 110, 146 1/2; No. 111, 148 1/2; No. 112, 150 1/2; No. 113, 152 1/2; No. 114, 154 1/2; No. 115, 156 1/2; No. 116, 158 1/2; No. 117, 160 1/2; No. 118, 162 1/2; No. 119, 164 1/2; No. 120, 166 1/2; No. 121, 168 1/2; No. 122, 170 1/2; No. 123, 172 1/2; No. 124, 174 1/2; No. 125, 176 1/2; No. 126, 178 1/2; No. 127, 180 1/2; No. 128, 182 1/2; No. 129, 184 1/2; No. 130, 186 1/2; No. 131, 188 1/2; No. 132, 190 1/2; No. 133, 192 1/2; No. 134, 194 1/2; No. 135, 196 1/2; No. 136, 198 1/2; No. 137, 200 1/2; No. 138, 202 1/2; No. 139, 204 1/2; No. 140, 206 1/2; No. 141, 208 1/2; No. 142, 210 1/2; No. 143, 212 1/2; No. 144, 214 1/2; No. 145, 216 1/2; No. 146, 218 1/2; No. 147, 220 1/2; No. 148, 222 1/2; No. 149, 224 1/2; No. 150, 226 1/2; No. 151, 228 1/2; No. 152, 230 1/2; No. 153, 232 1/2; No. 154, 234 1/2; No. 155, 236 1/2; No. 156, 238 1/2; No. 157, 240 1/2; No. 158, 242 1/2; 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No. 215, 356 1/2; No. 216, 358 1/2; No. 217, 360 1/2; No. 218, 362 1/2; No. 219, 364 1/2; No. 220, 366 1/2; No. 221, 368 1/2; No. 222, 370 1/2; No. 223, 372 1/2; No. 224, 374 1/2; No. 225, 376 1/2; No. 226, 378 1/2; No. 227, 380 1/2; No. 228, 382 1/2; No. 229, 384 1/2; No. 230, 386 1/2; No. 231, 388 1/2; No. 232, 390 1/2; No. 233, 392 1/2; No. 234, 394 1/2; No. 235, 396 1/2; No. 236, 398 1/2; No. 237, 400 1/2; No. 238, 402 1/2; No. 239, 404 1/2; No. 240, 406 1/2; No. 241, 408 1/2; No. 242, 410 1/2; No. 243, 412 1/2; No. 244, 414 1/2; No. 245, 416 1/2; No. 246, 418 1/2; No. 247, 420 1/2; No. 248, 422 1/2; No. 249, 424 1/2; No. 250, 426 1/2; No. 251, 428 1/2; No. 252, 430 1/2; No. 253, 432 1/2; No. 254, 434 1/2; No. 255, 436 1/2; No. 256, 438 1/2; No. 257, 440 1/2; No. 258, 442 1/2; No. 259, 444 1/2; No. 260, 446 1/2; No. 261, 448 1/2; No. 262, 450 1/2; No. 263, 452 1/2; No. 264, 454 1/2; No. 265, 456 1/2; No. 266, 458 1/2; No. 267, 460 1/2; No. 268, 462 1/2; No. 269, 464 1/2; No. 270, 466 1/2; No. 271, 468 1/2; No. 272, 470 1/2; No. 273, 472 1/2; No. 274, 474 1/2; No. 275, 476 1/2; No. 276, 478 1/2; No. 277, 480 1/2; No. 278, 482 1/2; No. 279, 484 1/2; No. 280, 486 1/2; No. 281, 488 1/2; No. 282, 490 1/2; No. 283, 492 1/2; No. 284, 494 1/2; No. 285, 496 1/2; No. 286, 498 1/2; No. 287, 500 1/2; No. 288, 502 1/2; No. 289, 504 1/2; No. 290, 506 1/2; No. 291, 508 1/2; No. 292, 510 1/2; No. 293, 512 1/2; No. 294, 514 1/2; No. 295, 516 1/2; No. 296, 518 1/2; No. 297, 520 1/2; No. 298, 522 1/2; No. 299, 524 1/2; No. 300, 526 1/2; No. 301, 528 1/2; No. 302, 530 1/2; No. 303, 532 1/2; No. 304, 534 1/2; No. 305, 536 1/2; No. 306, 538 1/2; No. 307, 540 1/2; No. 308, 542 1/2; No. 309, 544 1/2; No. 310, 546 1/2; No. 311, 548 1/2; No. 312, 550 1/2; No. 313, 552 1/2; No. 314, 554 1/2; No. 315, 556 1/2; No. 316, 558 1/2; No. 317, 560 1/2; No. 318, 562 1/2; No. 319, 564 1/2; No. 320, 566 1/2; No. 321, 568 1/2; No. 322, 570 1/2; No. 323, 572 1/2; No. 324, 574 1/2; No. 325, 576 1/2; No. 326, 578 1/2; No. 327, 580 1/2; No. 328, 582 1/2; No. 329, 584 1/2; No. 330, 586 1/2; No. 331, 588 1/2; No. 332, 590 1/2; No. 333, 592 1/2; No. 334, 594 1/2; No. 335, 596 1/2; No. 336, 598 1/2; No. 337, 600 1/2; No. 338, 602 1/2; No. 339, 604 1/2; No. 340, 606 1/2; No. 341, 608 1/2; No. 342, 610 1/2; No. 343, 612 1/2; No. 344, 614 1/2; No. 345, 616 1/2; No. 346, 618 1/2; No. 347, 620 1/2; No. 348, 622 1/2; No. 349, 624 1/2; No. 350, 626 1/2; No. 351, 628 1/2; No. 352, 630 1/2; No. 353, 632 1/2; No. 354, 634 1/2; No. 355, 636 1/2; No. 356, 638 1/2; No. 357, 640 1/2; No. 358, 642 1/2; No. 359, 644 1/2; No. 360, 646 1/2; No. 361, 648 1/2; No. 362, 650 1/2; No. 363, 652 1/2; No. 364, 654 1/2; No. 365, 656 1/2; No. 366, 658 1/2; No. 367, 660 1/2; No. 368, 662 1/2; No. 369, 664 1/2; No. 370, 666 1/2; No. 371, 668 1/2; No. 372, 670 1/2; No. 373, 672 1/2; No. 374, 674 1/2; No. 375, 676 1/2; No. 376, 678 1/2; No. 377, 680 1/2; No. 378, 682 1/2; No. 379, 684 1/2; No. 380, 686 1/2; No. 381, 688 1/2; No. 382, 690 1/2; No. 383, 692 1/2; No. 384, 694 1/2; No. 385, 696 1/2; No. 386, 698 1/2; No. 387, 700 1/2; No. 388, 702 1/2; No. 389, 704 1/2; No. 390, 706 1/2; No. 391, 708 1/2; No. 392, 710 1/2; No. 393, 712 1/2; No. 394, 714 1/2; No. 395, 716 1/2; No. 396, 718 1/2; No. 397, 720 1/2; No. 398, 722 1/2; No. 399, 724 1/2; No. 400, 726 1/2; No. 401, 728 1/2; No. 402, 730 1/2; No. 403, 732 1/2; No. 404, 734 1/2; No. 405, 736 1/2; No. 406, 738 1/2; No. 407, 740 1/2; No. 408, 742 1/2; No. 409, 744 1/2; No. 410, 746 1/2; No. 411, 748 1/2; No. 412, 750 1/2; No. 413, 752 1/2; No. 414, 754 1/2; No. 415, 756 1/2; No. 416, 758 1/2; No. 417, 760 1/2; No. 418, 762 1/2; No. 419, 764 1/2; No. 420, 766 1/2; No. 421, 768 1/2; No. 422, 770 1/2; No. 423, 772 1/2; No. 424, 774 1/2; No. 425, 776 1/2; No. 426, 778 1/2; No. 427, 780 1/2; No. 428, 782 1/2; No. 429, 784 1/2; No. 430, 786 1/2; No. 431, 788 1/2; No. 432, 790 1/2; No. 433, 792 1/2; No. 434, 794 1/2; No. 435, 796 1/2; No. 436, 798 1/2; No. 437, 800 1/2; No. 438, 802 1/2; 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No. 495, 916 1/2; No. 496, 918 1/2; No. 497, 920 1/2; No. 498, 922 1/2; No. 499, 924 1/2; No. 500, 926 1/2; No. 501, 928 1/2; No. 502, 930 1/2; No. 503, 932 1/2; No. 504, 934 1/2; No. 505, 936 1/2; No. 506, 938 1/2; No. 507, 940 1/2; No. 508, 942 1/2; No. 509, 944 1/2; No. 510, 946 1/2; No. 511, 948 1/2; No. 512, 950 1/2; No. 513, 952 1/2; No. 514, 954 1/2; No. 515, 956 1/2; No. 516, 958 1/2; No. 517, 960 1/2; No. 518, 962 1/2; No. 519, 964 1/2; No. 520, 966 1/2; No. 521, 968 1/2; No. 522, 970 1/2; No. 523, 972 1/2; No. 524, 974 1/2; No. 525, 976 1/2; No. 526, 978 1/2; No. 527, 980 1/2; No. 528, 982 1/2; No. 529, 984 1/2; No. 530, 986 1/2; No. 531, 988 1/2; No. 532, 990 1/2; No. 533, 992 1/2; No. 534, 994 1/2; No. 535, 996 1/2; No. 536, 998 1/2; No. 537, 1000 1/2; No. 538, 1002 1/2; No. 539, 1004 1/2; No. 540, 1006 1/2; No. 541, 1008 1/2; No. 542, 1010 1/2; No. 543, 1012 1/2; No. 544, 1014 1/2; No. 545, 1016 1/2; No. 546, 1018 1/2; No. 547, 1020 1/2; No. 548, 1022 1/2; No. 549, 1024 1/2; 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No. 603, 1132 1/2; No. 604, 1134 1/2; No. 605, 1136 1/2; No. 606, 1138 1/2; No. 607, 1140 1/2; No. 608, 1142 1/2; No. 609, 1144 1/2; No. 610, 1146 1/2; No. 611, 1148 1/2; No. 612, 1150 1/2; No. 613, 1152 1/2; No. 614, 1154 1/2; No. 615, 1156 1/2; No. 616, 1158 1/2; No. 617, 1160 1/2; No. 618, 1162 1/2; No. 619, 1164 1/2; No. 620, 1166 1/2; No. 621, 1168 1/2; No. 622, 1170 1/2; No. 623, 1172 1/2; No. 624, 1174 1/2; No. 625, 1176 1/2; No. 626, 1178 1/2; No. 627, 1180 1/2; No. 628, 1182 1/2; No. 629, 1184 1/2; No. 630, 1186 1/2; No. 631, 1188 1/2; No. 632, 1190 1/2; No. 633, 1192 1/2; No. 634, 1194 1/2; No. 635, 1196 1/2; No. 636, 1198 1/2; No. 637, 1200 1/2; No. 638, 1202 1/2; No. 639, 1204 1/2; No. 640, 1206 1/2; No. 641, 1208 1/2; No. 642, 1210 1/2; No. 643, 1212 1/2; No. 644, 1214 1/2; No. 645, 1216 1/2; No. 646, 1218 1/2; No. 647, 1220 1/2; No. 648, 1222 1/2; No. 649, 1224 1/2; No. 650, 1226 1/2; No. 651, 1228 1/2; No. 652, 1230 1/2; No. 653, 1232 1/2; No. 654, 1234 1/2; No. 655, 1236 1/2; 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LAWN MOWERS. Acme Buckeye, Easy & Excelsior, new list, dis 40&10 FINES. Linen Fish.....dis 25&10 Wire Clothes, Galvanized, 100 feet.....dis 30 LOCKS AND LATCHES. Cabinet, Eagle.....Changes made in list price Cabinet, Gaylord.....of some numbers Jan. 1, Cabinet, Bridgeport.....1881, dis 25&2 Cabinet, P. & F. Corbin.....dis 40 Trunk, new list, Jan 1, 1881.....dis 40 Yale Lock Co., Flat Key.....dis 33&10 Plate.....dis 33&10 DOOR LOCKS, ETC. Bradford..... Norwalk..... P. & F. Corbin.....List prices as revised Russell & Erwin.....Dec. 10th, 60¢ for Mallory, Wheeler & Co.....cash. Nimick & Brittan Mfg. Co..... Padlocks—Russell & Erwin..... Mallory, Wheeler & Co.....dis 70 Norwalk Lock Manf. Co.....and 5¢ for cash. Wm. Wilcox & Co..... Wm. Wilcox & Co's Plate Locks.....dis 33 1/2 Yale Lock Manf. Co's "Standard".....dis 40 Romer's.....dis 25&40 Conestoga.....dis 80 & 40 Scandinavian, "Norwich".....dis 50&10 Nimick & Brittan's Burglar-Proof Locks, dis 66 1/2 & 25 MALLETS. Penfield Block Co., Apple, Hickory and Lignumvite.....dis 30 MEAT CUTTERS. Dixon's (P. S. & W.) Nos. 1 2 3 4..... Perry's, Nos. 1 2 3 4 4 1/2 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 Woodruff's (P. S. & W.) Nos. 100 150 Haes'.....Nos. 11 12 13 Kieser's No. 55.....dis 40 Kieser's Gem.....dis 40 Kieser's No. 82.....dis 40 Kieser's Monarch.....dis 40 Beef Shaver, (Enterprise Manf. Co.).....dis 25 MOLASSES GATES. Stebbins Patterns.....dis 70&10 Stebbins Genuine.....dis 67 1/2 & 10 Stebbins Tinned Ends.....dis 40&10 Chase's Hard Metal.....dis 50&10 Self-Measuring, (Enterprise).....dis 60&10 Lincoln's Pattern.....dis 15 Weed's.....dis 15 Boss Nos. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 Boss, Japanned Finish.....dis 60&10 Boss, Bronze Finish.....dis 60&10 NUTS AND WASHERS. Square Nuts.....8 c off list. Hexagon Nuts.....8 1/2 c off list. Washers.....7 1/2 c off list. OILERS. Zinc and Tin.....dis 60&10 Brass and Copper.....dis 50 Malleable (Hammer's).....dis 50 PINKING IRONS. Per dozen.....75 cts. net PLATING MACHINES. Astor Plating Machine.....each \$15, dis 20 Crown Plating Machine.....dis 25 PLANES AND PLANE IRONS. Bench, First Quality.....dis 20 Bench, Second Quality.....dis 25 Molding.....dis 15 Bailey's (Stanley R. & L. Co.) New list, Jan. 1879.....dis 20&10 The Stanley (S. R. & L. Co.) new list, January 1879.....dis 20&10 Bailey's.....dis 20&10 Plane Irons, Butcher's.....dis 50 Plane Irons, Auburn Tool Co.....dis 20 Plane Iron, Ohio Tool Co.....dis 20 Plane Irons, Sandusky Tool Co.....dis 20 PLIERS AND NIPPERS. Button's Patent.....dis 33 1/2 Hall's Pat. Compound Lever Cutting Nippers, No. 2, 5 in. \$13.50; No. 4, 7 in. \$21 1/2 doz, dis 25 Gas Pliers.....dis 50 PLUMBS AND LEVELS. Disston's.....dis 40 Stanley R. & L. Co.'s Pat. Adjustable.....dis 65&10 Stanley R. & L. Co.'s Non-Adjustable.....dis 65&10 Chapin's Patent Adjustable.....dis 65&10 Chapin's Non-Adjustable.....dis 65&10 Standard Rule Co.'s New Adjustable.....dis 65&10 Standard Rule Co.'s Non-Adjustable.....dis 65&10 Pocket Levels.....dis 65&10 RAIL. Sliding Door, Wrought Brass.....dis 40 Sliding Door, Bronzed Wrt. Iron.....dis 35 Sliding Door, Iron, Painted.....dis 10 Barn Door.....dis 10 Per 100 feet.....\$2.60 3 1/2 5 1/2 dis 10 B. D. for N. E. Hangers—Small. Med. Large. Per 100 feet.....\$2.10 2.70 3.00 net. RIVETS. Iron and Tinned, new list, Dec. 10, 1881.....dis 50 In bulk, new list, Dec. 10, 1881.....dis 45 Copper Rivets and Burrs.....dis 60&10 Nos. 7 8 9 10 11 12 13 14 15 Rivet.....49c. 50c. 52c. 54c. 56c. 58c. 60c. 62c. 64c. 66c. 68c. 70c. RODS. Stair, Brass.....dis 25 Stair, Black Walnut.....dis 25 RULES. Chapin's.....dis 80 Standard.....dis 50&10 Stanley.....dis 50 Stevens & Co.....dis 70&10 Stevens & Co. Miscellaneous.....dis 50&10 SAD IRONS. Self-Heating, Charcoal.....dis 9.00 net Mrs. Post's Irons.....dis 35 Enterprise Star Irons, new list, July 20, '82.....dis 35 Comb'd Fluter and Sad Iron.....dis 15 Common Sad Irons.....dis 25 SAND PAPER. Baeder & Adamson's Flint, 00&1 1/2.....\$4.50 1/2 m. Baeder & Adamson's Flint, 2, 2 1/2, 3, 3 1/2, 4, 4 1/2, 5, 5 1/2, 6, 6 1/2, 7, 7 1/2, 8, 8 1/2, 9, 9 1/2, 10, 10 1/2, 11, 11 1/2, 12, 12 1/2, 13, 13 1/2, 14, 14 1/2, 15, 15 1/2, 16, 16 1/2, 17, 17 1/2, 18, 18 1/2, 19, 19 1/2, 20, 20 1/2, 21, 21 1/2, 22, 22 1/2, 23, 23 1/2, 24, 24 1/2, 25, 25 1/2, 26, 26 1/2, 27, 27 1/2, 28, 28 1/2, 29, 29 1/2, 30, 30 1/2, 31, 31 1/2, 32, 32 1/2, 33, 33 1/2, 34, 34 1/2, 35, 35 1/2, 36, 36 1/2, 37, 37 1/2, 38, 38 1/2, 39, 39 1/2, 40, 40 1/2, 41, 41 1/2, 42, 42 1/2, 43, 43 1/2, 44, 44 1/2, 45, 45 1/2, 46, 46 1/2, 47, 47 1/2, 48, 48 1/2, 49, 49 1/2, 50, 50 1/2, 51, 51 1/2, 52, 52 1/2, 53, 53 1/2, 54, 54 1/2, 55, 55 1/2, 56, 56 1/2, 57, 57 1/2, 58, 58 1/2, 59, 59 1/2, 60, 60 1/2, 61, 61 1/2, 62, 62 1/2, 63, 63 1/2, 64, 64 1/2, 65, 65 1/2, 66, 66 1/2, 67, 67 1/2, 68, 68 1/2, 69, 69 1/2, 70, 70 1/2, 71, 71 1/2, 72, 72 1/2, 73, 73 1/2, 74, 74 1/2, 75, 75 1/2, 76, 76 1/2, 77, 77 1/2, 78, 78 1/2, 79, 79 1/2, 80, 80 1/2, 81, 81 1/2, 82, 82 1/2, 83, 83 1/2, 84, 84 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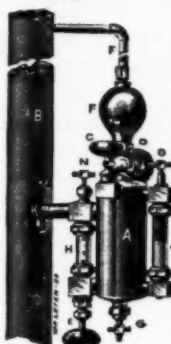
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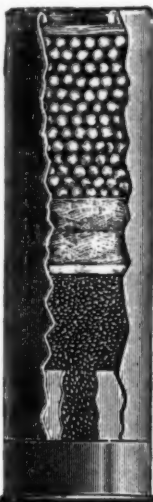
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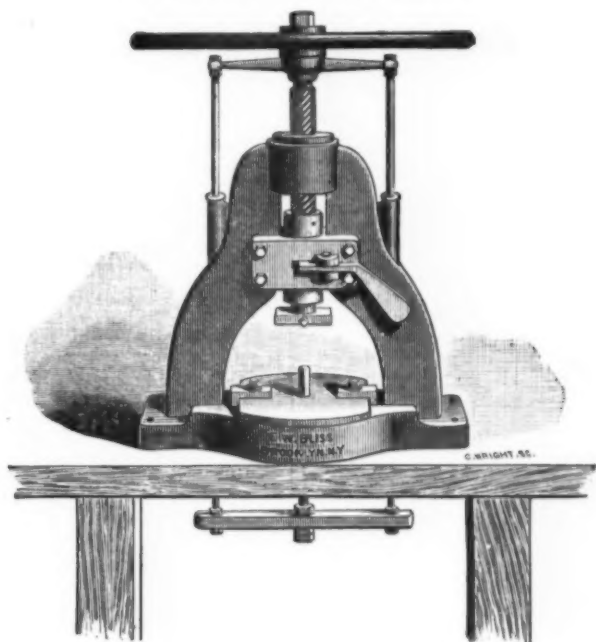
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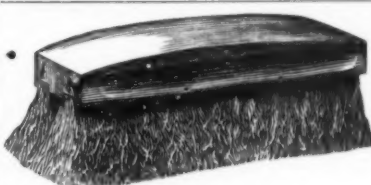
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WANTED.—A Partner, with some capital, to manufacture the Orr Gin, that has a good reputation. Location in the center of the best cotton region of Alabama. The shop and machinery ready for operation, near Selma & New Orleans R. R. Location is healthy, water good. Address Jas. F. Orr, Orrville, Ala.

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PARTNER WANTED.—To take half interest in a box and handle factory; prospects for a good trade; timber and labor cheap. Address box 196, Shreveport, Louisiana.

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AGENTS (with references) wanted to sell furniture. Address South Carolina Bent Wood Furniture Co., Charleston, S. C.

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WANTED.—A sober, energetic and competent man, with some capital, to take an interest in, and assume the treasuryship of a coal mining and shipping company in Alabama. His duties will be to attend to the sales of coal and coke, with office at Atlanta, Ga. A fine opening for the right man, with whom good terms will be made. Address Coal Co., care MANUFACTURERS' RECORD.

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WANTED.—At the Emily Mines, Spottsylvania county, Va., a first class machinist, one who understands handling pumps and pumping machinery, keeping machinery in repair, &c. To a first-class man, first-class wages will be paid. No one who drinks liquor of any kind need apply. Address Thomas J. McSpiedin, Superintendent, Mine Run, Orange county, Va.

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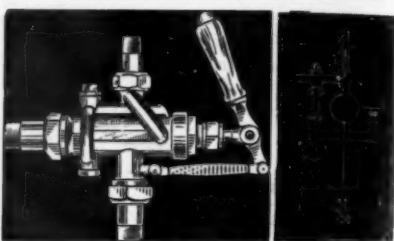


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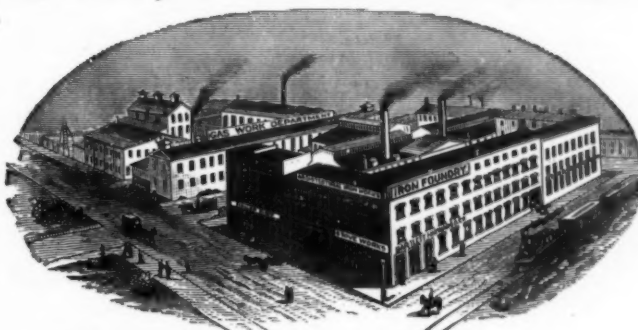
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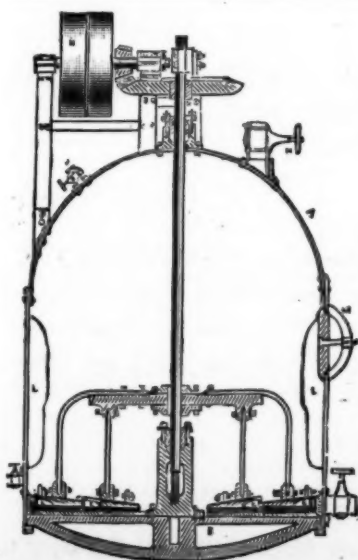
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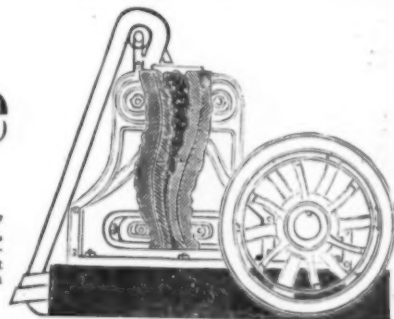
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(Signed) JOHN H. WILKERSON,
Inspector of Steam Boilers for District of Columbia, 220 7th Street, S. E.
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(Signed) JOHN H. HARRIS, Proprietor of Harris House, Washington, D. C.
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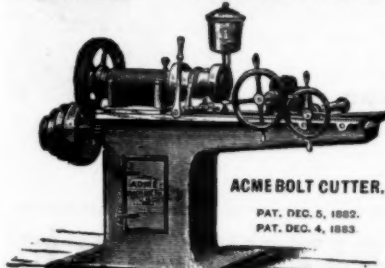
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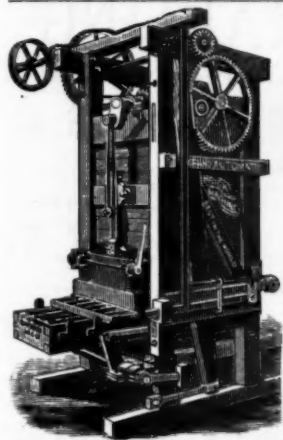
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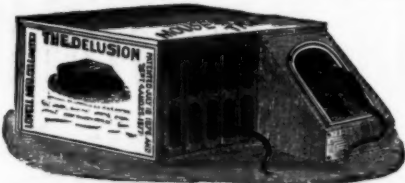
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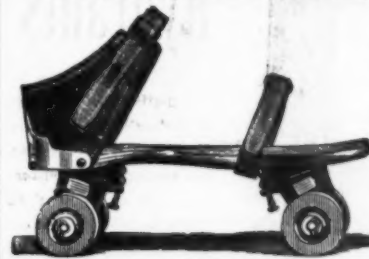
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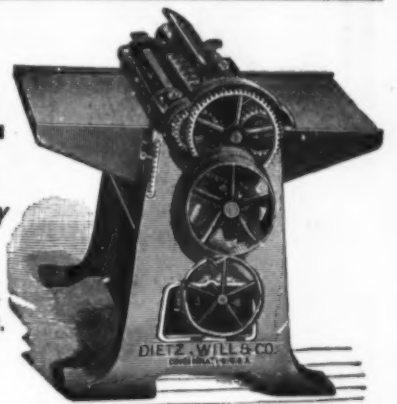
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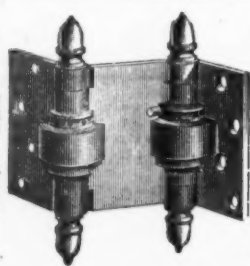
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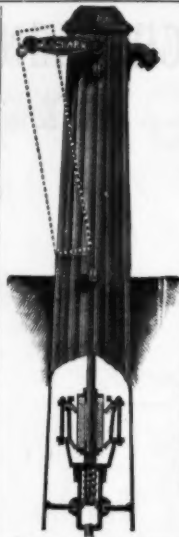
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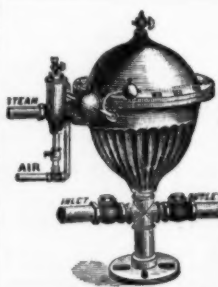
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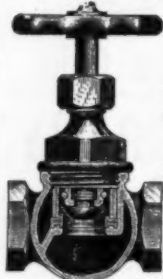


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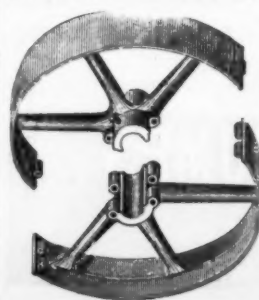
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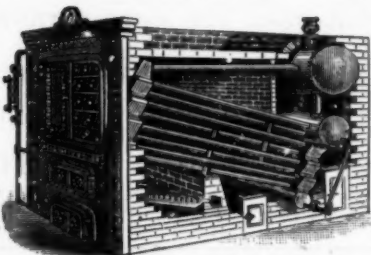
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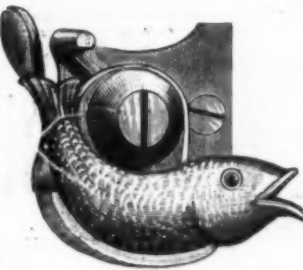
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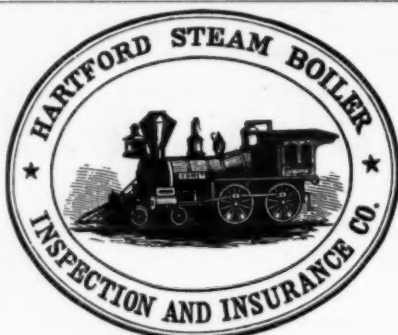
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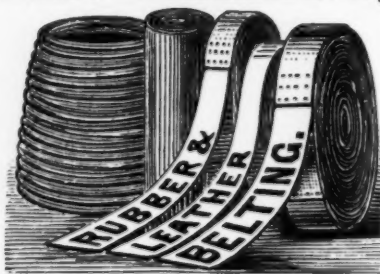
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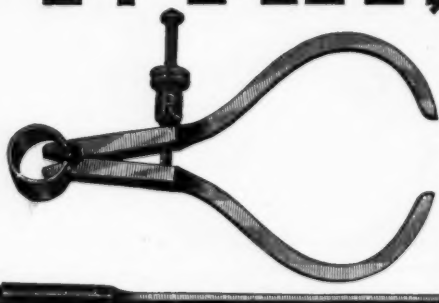
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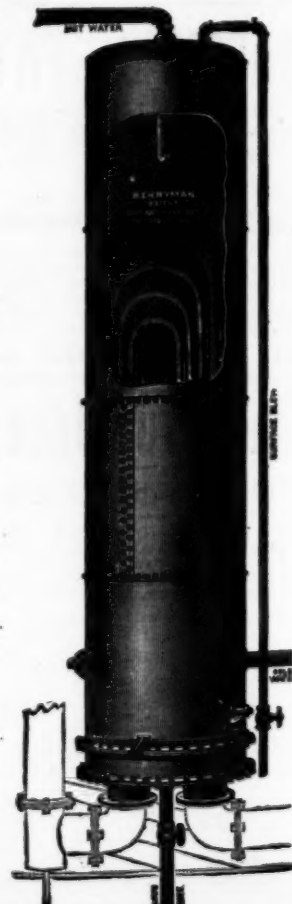
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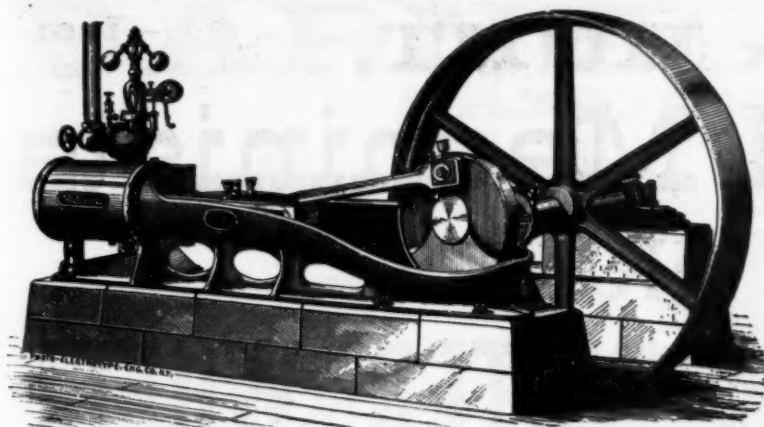
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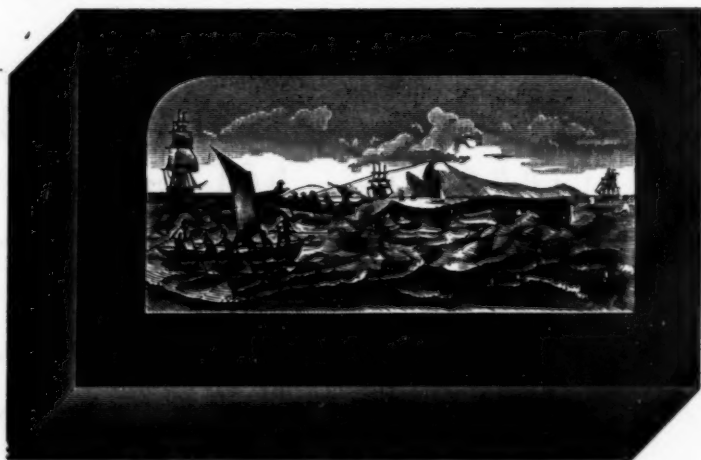
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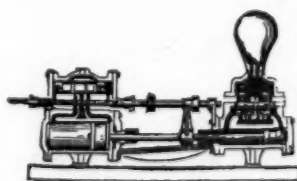


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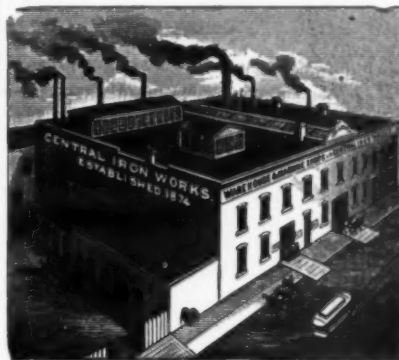
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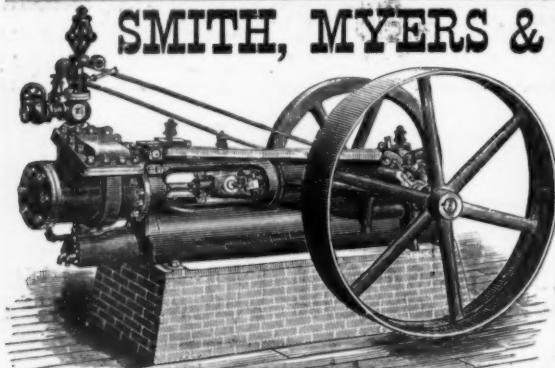
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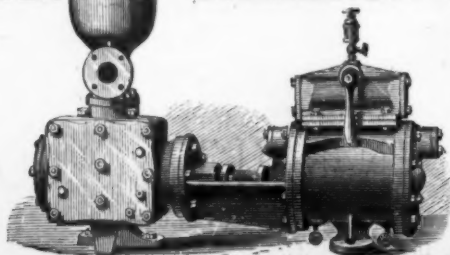


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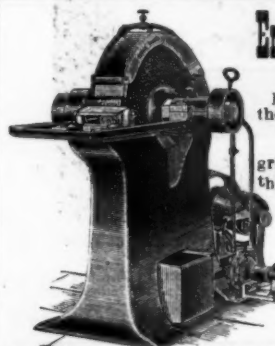


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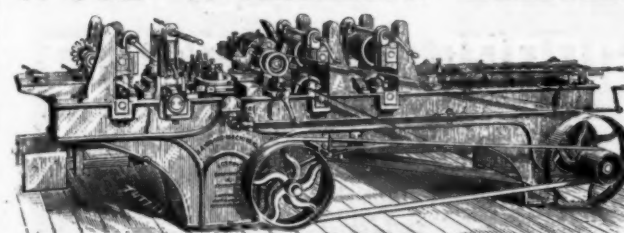
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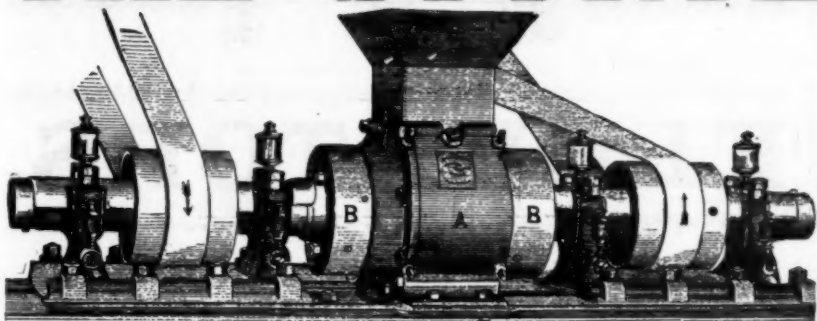
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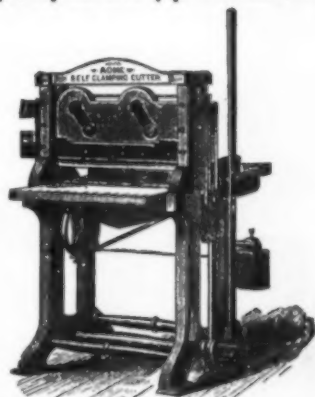
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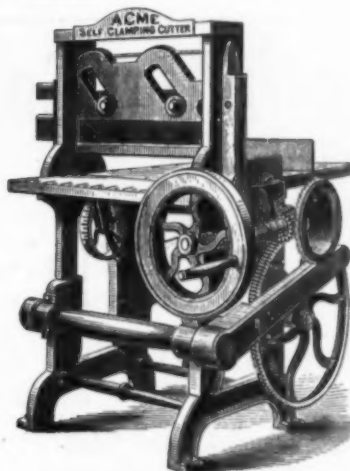
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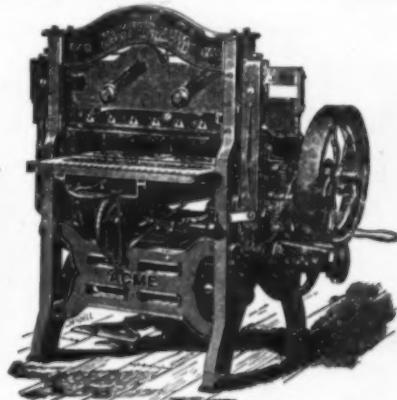
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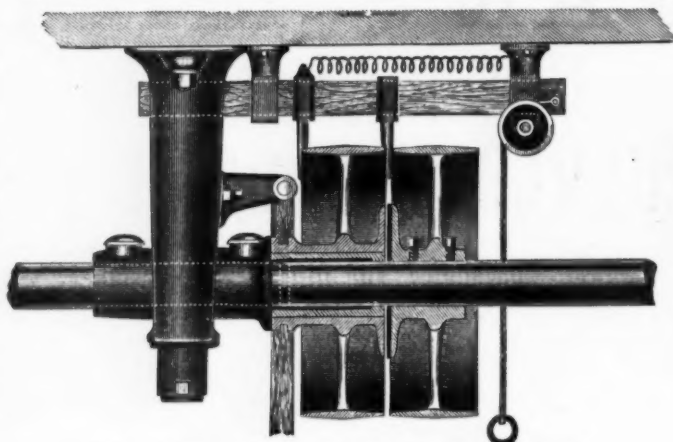
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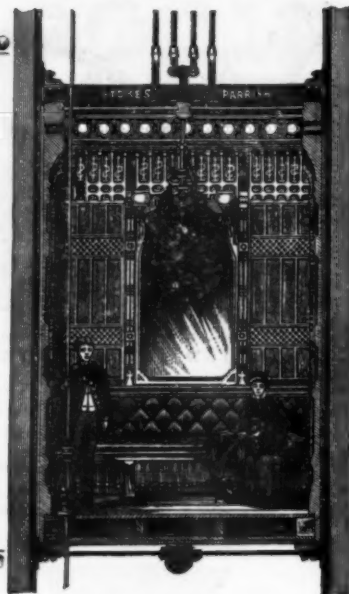
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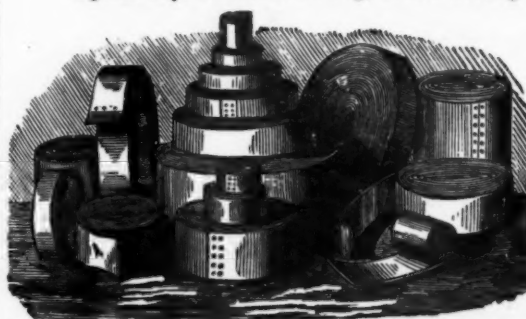
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